

Mr. Greg Hammarstrom
Director of Facilities and Project Management
University of New Orleans Foundations
Advanced Technology Center
2021 Lakeshore Drive, Suite 420
New Orleans, LA 70122

RE: Water Damage – Air Quality Sampling – Hurricane Isaac

Navy ITC - Building #2

Leaaf #: UNO-027

Dear Mr. Hammarstrom:

The following is the report for the mold air sampling events at the Navy - Information Technology Center Building # 2, 2285 Lakeshore Dr., New Orleans, LA 70122 which occurred December 26, 2012. Refer to Appendix A – Property Location Map for an illustration of the property's location.

Air quality measurements were collected both inside and outside of the building in the water affected areas of the 1<sup>st</sup> through 4<sup>th</sup> floors using bioaerosol cassettes. The collected air samples were sent to a third-party laboratory (EMLab P&K) for direct read analysis for mold. The sampling event included the collection of fourteen (14) different sampling locations that were comprised of two (2) outdoor locations and twelve (12) indoor.

The review of air results indicates that the mold air quality within the tested areas in the rooms are not significantly different indoors then someone would be exposed to outside. Additionally, when one compares the Mold Score calculation detailed in the lab report, it can be concluded that the mold detected indoors is derived from outdoors and is not from indoor sources.

The attachments to this report will provide additional information concerning the methodology used to collect the samples, the location of the samples collected and laboratory results.

If there are any questions or additional information is needed, please contact me at (504) 342-2687.

Sincerely,

Leaaf Environmental, LLC

Jim Blazek, Jr.

Sr. Environmental Professional

Attachments (support documents)

# **Appendices**

**Appendix A – Property Location Map** 

**Appendix B - Sampling Support Documentation** 

Attachment 1 - Sampling & Analysis Method

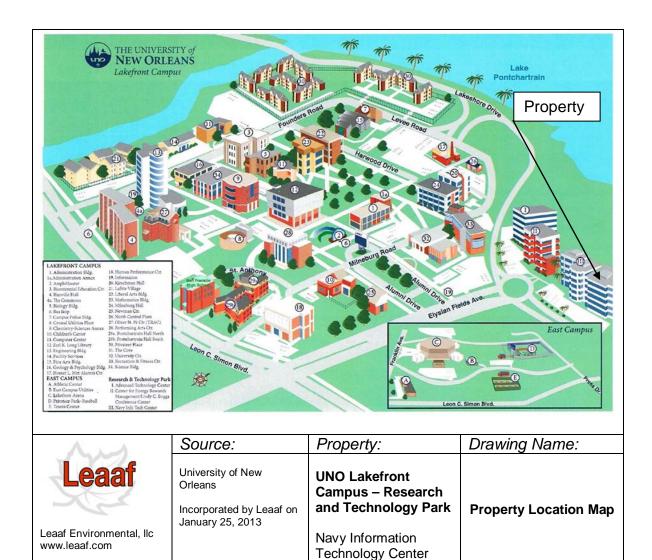
Attachment 2 - Field Documentation

Attachment 3 - Analytical Results and Chain of Custody

Appendix C -Sources of Information

# **Appendix A:**

**Property Location Map** 



# **Appendix B**

# **Sampling Support Documentation**

**Attachment 1 - Sampling & Analysis Method** 

**Attachment 2 - Field Documentation** 

**Attachment 3 - Analytical Results and Chain of Custody** 

# **Attachment 1**

Sampling & Analysis Method

#### **General Procedures:**

As there are no current regulatory standards that have been developed by the U.S. Environmental Protection Agency (EPA) or the Louisiana Department of Environmental Quality (LDEQ) for mold spore inspections, Leaaf has utilized the following method for identifying if airborne mold is present within an area of concern through the use of air quality sampling methods. Leaaf's environmental professional places air monitoring stations in areas of concern (identified by others), or locations that would typically represent the area(s) or building(s) of concern. In the event that visible mold growth or moldy odors are reported Leaaf inspects the area(s) of concern and determines if any of the following are present: (1) visible source(s) of suspect mold growth, (2) visible signs of water staining and/or (3) suspect odors. Based on the observations, Leaaf selects sampling locations. Air samples are also collected outdoors to establish a baseline, control or background reference to compare to indoor samples. All samples are collected on a bioaerosol cassette and forwarded to a third party laboratory for analysis via a signed chain of custody. The laboratory typically used is either EMLab P&K or EMSL. Once the laboratory data are returned to Leaaf, they are reviewed and a report is developed. The conclusions of the report are based on the data collected at the time of the sampling. As there are no regulatory standards, Leaaf compares the indoor results to the outdoor results and determine if there is a significant difference. If EMLab P&K laboratory is used then an additional comparison is available that helps indicate if the mold may have originated from an indoor source.

# **Equipment:**

Leaaf collects air quality samples using one or more of the following vacuum type sampling pumps:

Zefon International Bio-Pump – Model ZBP-100 Zefon International Bio-Pump Plus – Model ZBP-200 Zefon International Rotary Vane Sampling Pump – Model ZHV00

The pumps are set to pull 15 liters per minute (LPM) of air. The pumps are calibrated with a secondary flow indicator to ensure that the pump is pulling the correct number of LPM. If the calibration check identifies a discrepancy from the desired LPM, the pump is adjusted until the flow indicator reads the desired LPM.

# **Sampling Media:**

The air samples are collected using a bioaerosol spore trap sampling cassette. Specifically an "Air-O-Cell" cassette is used. These cassettes have an expiration date; therefore, the date is checked on each cassette prior to use. Any expired cassettes are discarded.

# **Sampling Time:**

Sampling time may vary based on the site conditions; however, Leaaf typically utilizes a 10 minute sampling time period. The time period is noted on the field documentation.

#### Field Documentation:

Leaaf utilizes an Air Monitoring Data Sheet (developed by Leaaf) to document project specific information pertaining to the collection of the air samples. This information includes, but is not limited to, sample number, sample location, times and flow rate.

Leaaf typically develops a not-to-scale site field drawing, uses a client provided drawing or an aerial photograph of the site to illustrate the approximate locations where the samples are collected. Any developed drawing is meant to assist in providing an illustrated guide and is not to be considered a legal survey or actual drawing of the property.

Upon completion of the sampling effort, Leaaf's environmental professional completes an environmental chain-of-custody to be used to track the handling of the samples from the field to the laboratory. The samples and the chain-of-custody are placed into a sealable plastic baggy. The bagged samples are then placed into a shipping container (typically a FedEx package) for shipment and/or delivery to the laboratory.

#### **Laboratory Analysis:**

The samples are sent to a laboratory that specializes in the analysis of bioaerosol cassettes and bulk samples for fungal type, pollen type, and/or other allergens. The sample media within the cassettes or the bulk samples are placed under a microscope for direct read analysis at varying magnifications. The total number spores, pollen, and/or other allergens are counted and also speciated into various fungal spore, pollen and/or other, types. Refer to the laboratory report for additional information.

#### Interpretation of Data:

To develop the opinion and conclusions presented in Leaaf's report, the environmental professional evaluates all of the data collected during the course of the Survey. If visual and olfactory evidence is being investigated, then the report will indicate those locations where evidence was noted (typically on the field maps). Visual or olfactory sources are typically indicators of hidden sources of water intrusion. The survey is not intended to identify the sources of water intrusion. The laboratory data collected for the interior is compared to the exterior results to determine if there is a difference in the mold spore, pollen, and other counts identified indoors as compared to background (outdoor) levels. Conclusions are based on the data collected at the time of the survey and may also incorporate previous collected data or knowledge about molds. Depending on the laboratory used additional comparisons may be made concerning the potential for the detected mold to have originated from an indoor source or an outside source.

#### **Limitation of the Sampling and Analysis Method:**

The air quality investigation performed by Leaaf is a "snap shot" of the dispersion of mold, pollen, and/or other allergens at the sample locations. The sampling method utilized by this survey can only collect spores, pollen and other allergens that are present at the time of the sample collection; therefore, sampling efforts at a different time or location may result in different types and/or counts of mold, pollen, or other allergens.

This survey was intended to determine if mold spores, pollen and/or other allergens were present within the areas being tested as compared to outdoors. As all individuals do not react to mold spores, pollen or other allergen exposure in the same manner, this report is not intended to determine if the health of an individual is directly affected by mold, pollen or other allergens. An individual experiencing health related issues should contact a licensed medical physician or specialist.

This report is developed by incorporating information that is obtainable within a reasonable time, cost and as directed by the Client and/or Clients representative. Leaaf makes no warranties as to the conclusions or opinions made by others based on the information presented in this report. This report is provided to the Client only, and is intended to assist the Client in making an informed decision about the property. Leaaf's opinions are based on the site conditions at the time of the survey and the results reported by the laboratory.

Some or all of the sampling locations were directed by the Client. This means that the sample quantity or areas to be tested were limited by the Client or the actual location was chosen by the Client.

This report should not be altered or copied without Leaaf's written permission.

# **Attachment 2**

**Field Documentation** 

# **AIR MONITORING DATA SHEET**



Date:	26 December 2012
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Leaaf File #: UNO-027

Project Location:	Navy ITC Buildings							<u> </u>			
Constituent of Concern:	Airborne Mole	d						_			
Sample Number	Area	Room	Pump Number	Flow	art Time	St	op Time	Total Time	Average Flow	Total Volume	
UNO-027-AOC-011	☐ Interior ☐ Exterior	Exterior – Between Buildings 2 and 3	BP-01	15 lpm	1058	15 lpm	1108	10 min	15 lpm	150 I	
UNO-027-AOC-012	☐ Interior ☐ Exterior	Building 2 – 1 <sup>st</sup> Floor - Office 134	BP-05	15 lpm	1101	15 lpm	1111	10 min	15 lpm	150 I	
UNO-027-AOC-013	☐ Interior ☐ Exterior	Building 2 – 1 <sup>st</sup> Floor - Stairwell	BP-03	15 lpm	1104	15 lpm	1114	10 min	15 lpm	150 I	
UNO-027-AOC-014	☐ Interior ☐ Exterior	Building 2 – 1 <sup>st</sup> Floor - Chief Jones' Office	BP-04	15 lpm	1106	15 lpm	1116	10 min	15 lpm	150 I	
UNO-027-AOC-015	☐ Interior ☐ Exterior	Building 2 – 1 <sup>st</sup> Floor - Office 113	BP-02	15 lpm	1107	15 lpm	1117	10 min	15 lpm	150 I	
UNO-027-AOC-016	☐ Interior ☐ Exterior	Building 2 – 2 <sup>nd</sup> Floor – Office 211 SE Corner	BP-01	15 lpm	1121	15 lpm	1131	10 min	15 lpm	150 I	
UNO-027-AOC-017	☐ Interior ☐ Exterior	Building 2 – 2 <sup>nd</sup> Floor – Office 211 NW Corner	BP-02	15 lpm	1121	15 lpm	1131	10 min	15 lpm	150 I	
UNO-027-AOC-018	☐ Interior ☐ Exterior	Building 2 – 2 <sup>nd</sup> Floor –Office 210 NE Corner	BP-03	15 lpm	1124	15 lpm	1134	10 min	15 lpm	150 I	
UNO-027-AOC-019	☐ Interior ☐ Exterior	Building 2 – 2 <sup>nd</sup> Floor – Office 210 SW Corner	BP-04	15 lpm	1124	15 lpm	1134	10 min	15 lpm	150 I	
UNO-027-AOC-020	☐ Interior ☐ Exterior	Building 2 – 2 <sup>nd</sup> Floor –E of Office 209	BP-05	15 lpm	1126	15 lpm	1136	10 min	15 lpm	150 I	
UNO-027-AOC-021	☐ Interior ☐ Exterior	Building 2 – 3 <sup>rd</sup> Floor – Office 311	BP-04	15 lpm	1138	15 lpm	1148	10 min	15 lpm	150 I	
UNO-027-AOC-022	☐ Interior ☐ Exterior	Building 2 – 3 <sup>rd</sup> Floor – S of Office 311	BP-01	15 lpm	1140	15 lpm	1150	10 min	15 lpm	150 I	
UNO-027-AOC-023	☐ Interior ☐ Exterior	Building 2 – 4 <sup>th</sup> Floor – NE Office	BP-02	15 lpm	1143	15 lpm	1153	10 min	15 lpm	150 I	
Calibration Unit:       Bio-Pump Flow Meter - ☑ Air-O-Cell ☐ Via-Cell - ☐ 01 ☑ 02 ☐ 03 ☐ 04 ☐ 05         BP-01 Cal. Check:       ☑ OK ☐ Adjusted ☑ OK         BP-02 Cal. Check:       ☑ OK ☐ Adjusted ☑ OK         BP-03 Cal. Check:       ☑ OK ☐ Adjusted ☑ OK         BP-04 Cal. Check:       ☑ OK ☐ Adjusted ☑ OK         BP-05 Cal. Check:       ☑ OK ☐ Adjusted ☑ OK         Start       Stop											
Media Manufacture:	⊠ Air-O-Cell ☐ Via	-Cell		Best if us	sed by:		2013-10	or 2013-09			
Industrial Hygienist – Environm	ental Professional:	Jim Blazek, Jr.					_				



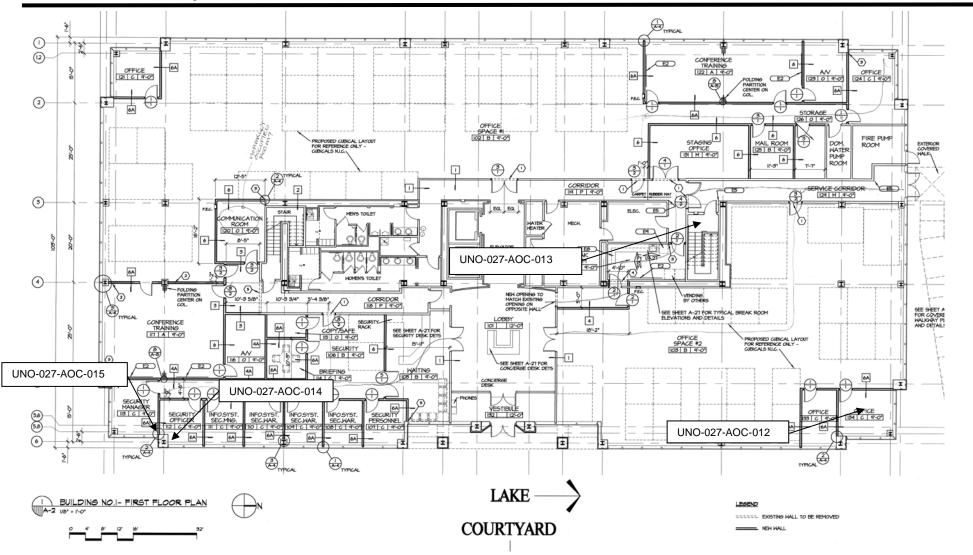
# **AIR MONITORING DATA SHEET**

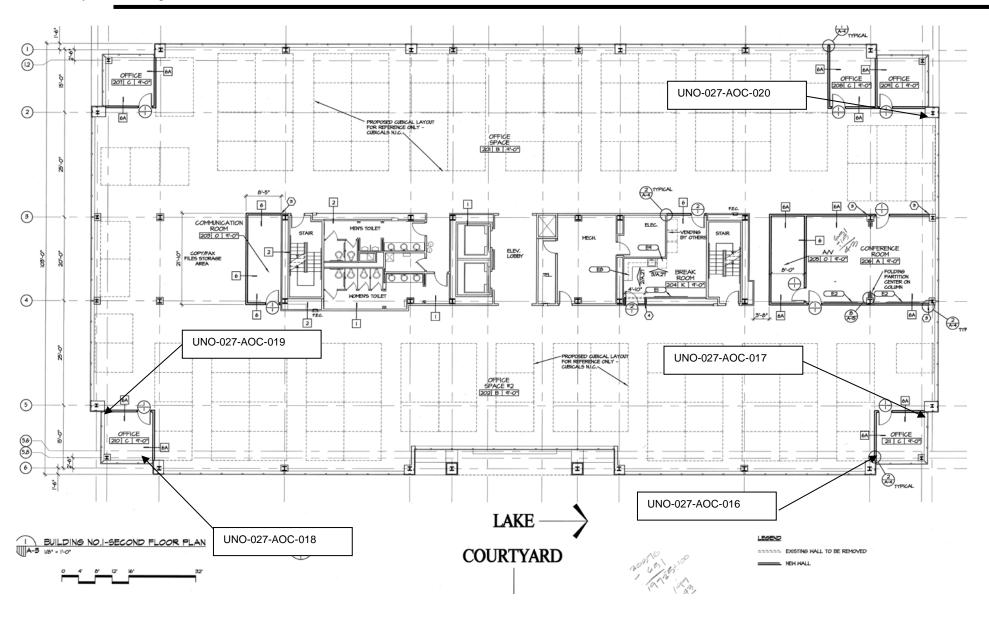
Date: <u>26 December 2012</u> Leaaf #: <u>UNO-027</u>

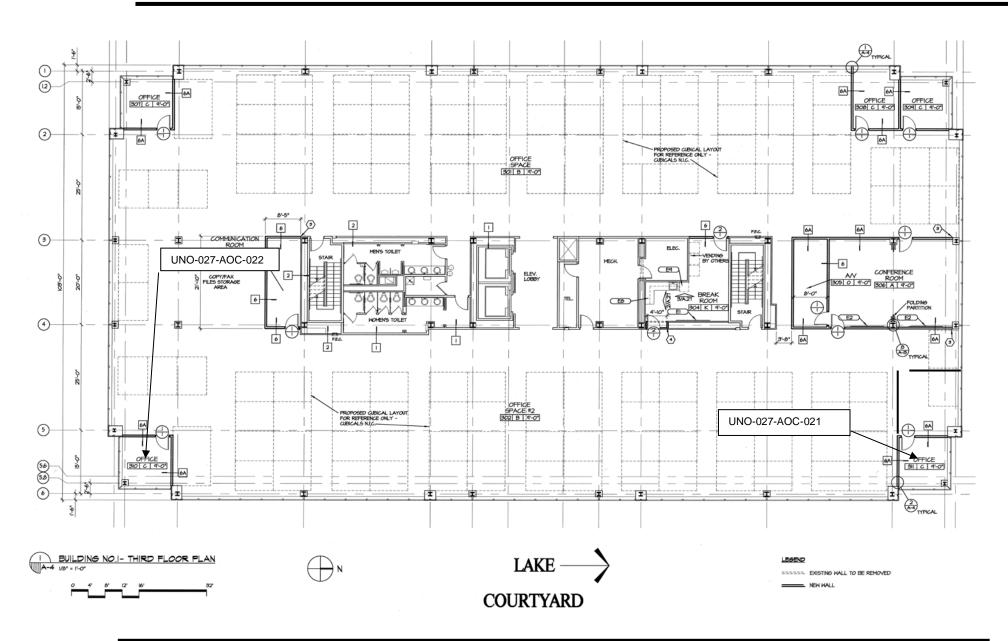
Project Location:	Navy ITC Building	

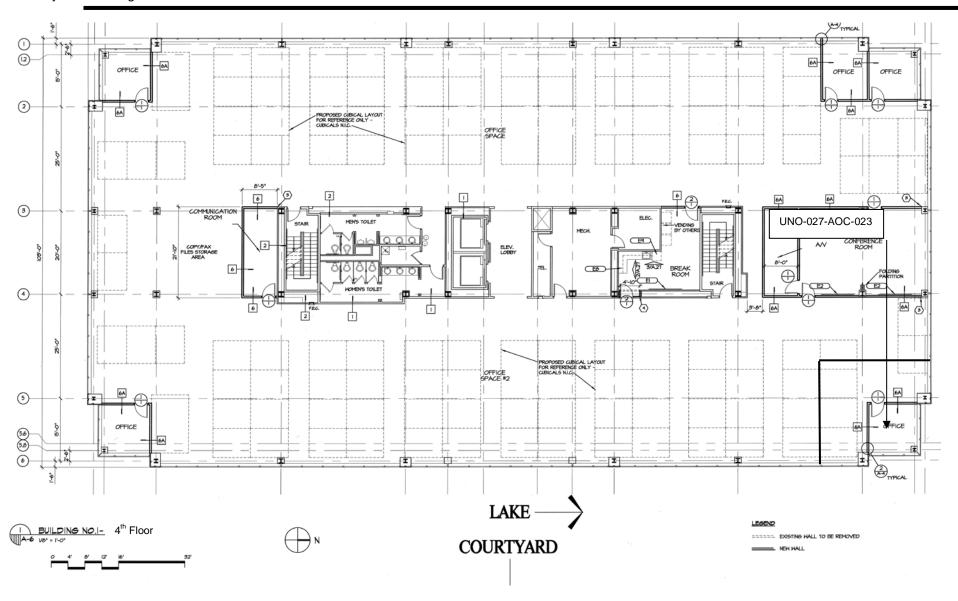
Constituent of Concern: Airborne Mold

Commis Number			Pump	St	art	St	top	Total	Average	Total
Sample Number	Area	Room	Number	Flow	Time	Flow	Time	Time	Flow	Volume
UNO-027-AOC-024	☐ Interior ☐ Exterior	Building 3 – 3 <sup>rd</sup> Floor – S of SW Corner Office	BP-02	15 lpm	1207	15 lpm	1217	10 min	15 lpm	150 I
UNO-027-AOC-025	☐ Interior ☐ Exterior	Building 3 – 3 <sup>rd</sup> Floor – SW Corner Office	BP-05	15 lpm	1208	15 lpm	1218	10 min	15 lpm	150 I
UNO-027-AOC-026	☐ Interior ☐ Exterior	Building 3 – 3 <sup>rd</sup> Floor – E of NW Corner Office	BP-01	15 lpm	1221	15 lpm	1231	10 min	15 lpm	150 I
UNO-027-AOC-027	☐ Interior ☐ Exterior	Building 3 – 3 <sup>rd</sup> Floor – NE Corner Office	BP-02	15 lpm	1224	15 lpm	1234	10 min	15 lpm	150 I
UNO-027-AOC-028	☐ Interior ☐ Exterior	Building 3 – 3 <sup>rd</sup> Floor – Office S of NE Corner Office	BP-04	15 lpm	1224	15 lpm	1234	10 min	15 lpm	150 I
UNO-027-AOC-029	☐ Interior ☐ Exterior	Building 3 – 3 <sup>rd</sup> Floor – W of SE Corner office	BP-05	15 lpm	1227	15 lpm	1237	10 min	15 lpm	150 I
UNO-027-AOC-030	☐ Interior ☐ Exterior	Building 3 – 3 <sup>rd</sup> Floor – Center of Southern Wall	BP-03	15 lpm	1227	15 lpm	1237	10 min	15 lpm	150 I
UNO-027-AOC-031	☐ Interior ☐ Exterior	Building 3 – 2 <sup>nd</sup> Floor – SE Corner Office	BP-01	15 lpm	1240	15 lpm	1250	10 min	15 lpm	150 I
UNO-027-AOC-032	☐ Interior ☐ Exterior	Building 3 – 2 <sup>nd</sup> Floor – W of SE Corner Office	BP-02	15 lpm	1240	15 lpm	1250	10 min	15 lpm	150 I
UNO-027-AOC-033	☐ Interior ☐ Exterior	Building 3 – 1 <sup>st</sup> Floor – SE Corner Computer Office	BP-05	15 lpm	1247	15 lpm	1257	10 min	15 lpm	150 I
UNO-027-AOC-034	☐ Interior ☐ Exterior	Building 3 – 1 <sup>st</sup> Floor – SW Corner	BP-03	15 lpm	1248	15 lpm	1257	10 min	15 lpm	150 I
UNO-027-AOC-035	☐ Interior ☐ Exterior	Building 4 – 1 <sup>st</sup> Floor – SW Corner Office	BP-01	15 lpm	1302	15 lpm	1312	10 min	15 lpm	150 I
UNO-027-AOC-036	☐ Interior ☐ Exterior	Building 4 – 1 <sup>st</sup> Floor – E of SW Corner Office	BP-02	15 lpm	1302	15 lpm	1312	10 min	15 lpm	150 I
UNO-027-AOC-037	☐ Interior ☐ Exterior	Exterior – Between Building 3 and 4	BP-05	15 lpm	1303	15 lpm	1313	10 min	15 lpm	150 I









# **Attachment 3**

**Analytical Results and Chain of Custody** 



Report for:

Mr. Jim Blazek Leaaf Environmental, LLC 812 Rupp St. Gretna, LA 70053

Regarding: Project: UNO-NAVY Buildings 2-4

EMĹ ID: 1009621

Approved by:

Lab Manager Baluswamy Krishnan Dates of Analysis:

Spore trap analysis: 12-31-2012

Service SOPs: Spore trap analysis (1038) AIHA accredited service

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Client: Leaaf Environmental, LLC

C/O: Mr. Jim Blazek

Re: UNO-NAVY Buildings 2-4

Date of Sampling: 12-26-2012 Date of Receipt: 12-28-2012 Date of Report: 12-31-2012

# SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:		UNO-027-AOC-011: Exterior-Between Buildings 2 and 3 None				NO-027-AC ing 2-1st Fl 134								NO-027-AC ling 2-1st F Jones' Of	loor-Chi	
Comments (see below)		None				None				None				None		
Lab ID-Version‡:		4511558	-1			4511559	-1			4511560	-1			4511561	-1	
Analysis Date:		12/31/20	12			12/31/20	12			12/31/20	12			12/31/20	12	
Sample volume (liters)		150				150				150				150		
Background debris (1-4+)††		1+				2+				2+				2+		
	Count	Count/m3	DL/m3*	%	Count	Count/m3	DL/m3*	%	Count	Count/m3	DL/m3*	%	Count	Count/m3	DL/m3*	%
Hyphal fragments	1	7	7	n/a	3	20	7	n/a	4	27	7	n/a	4	27	7	n/a
Pollen									1	7	7	n/a				
§ TOTAL FUNGAL SPORES	126	840	n/a	100	3	20	n/a	100	38	250	n/a	100	10	67	n/a	100
Alternaria													1	7	7	10
Ascospores	5	33	7	4					10	67	7	26				
Basidiospores	120	800	7	95					3	20	7	8	4	27	7	40
Bipolaris/Drechslera group													1	7	7	10
Chaetomium																
Cladosporium					3	20	7	100	1	7	7	3	2	13	7	20
Curvularia									2	13	7	5				
Other brown									3	20	7	8	1	7	7	10
Penicillium/Aspergillus types									17	110	7	45				
Pestalotiopsis	1	7	7	1												
Pithomyces									1	7	7	3				
Rusts									1	7	7	3				
Smuts, Periconia, Myxomycetes													1	7	7	10
Stachybotrys																

#### **Comments:**

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample.

<sup>\*</sup>The DL/m3 has been rounded to a whole number.

<sup>‡</sup> A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x". § Total Fungal Spores has been rounded to two significant figures to reflect analytical precision.

Client: Leaaf Environmental, LLC

C/O: Mr. Jim Blazek

Re: UNO-NAVY Buildings 2-4

# SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	U	UNO-027-AOC-015: Building 2-1st Floor-Office			U.	NO-027-AC	OC-016:		U	NO-027-AC	OC-017:		U	NO-027-A0	OC-018	:
	Build		oor-Off	ice	Buildi	ing 2-2nd F	loor-Off	ice	Build	ing 2-2nd F	loor-Off	ice	Buildi	ing 2-2nd F	loor-Of	fice
		113				211 SE Co	orner			211 NW C	orner			210 NE C	orner	
Comments (see below)		None				None				None				None		
Lab ID-Version‡:		4511562	-1			4511563	-1			4511564	-1			4511565	5-1	
Analysis Date:		12/31/20	12			12/31/20	12			12/31/20	12			12/31/20	12	
Sample volume (liters)		150				150				150				150		
Background debris (1-4+)††		2+				2+				2+				2+		
, , , , , , , , , , , , , , , , , , ,	Count	Count/m3	DL/m3*	%	Count	Count/m3	DL/m3*	%	Count	Count/m3	DL/m3*	%	Count	Count/m3	DL/m3*	%
Hyphal fragments	2	13	7	n/a	1	7	7	n/a								
Pollen													1	7	7	n/a
§ TOTAL FUNGAL SPORES	14	93	n/a	100	3	20	n/a	100	3	20	n/a	100	1	7	n/a	100
Alternaria																
Ascospores	1	7	7	7												
Basidiospores	1	7	7	7	1	7	7	33	1	7	7	33				
Bipolaris/Drechslera group																
Chaetomium																
Cladosporium	4	27	7	29	1	7	7	33								
Coelomycetes																
Curvularia	2	13	7	14					1	7	7	33				
Nigrospora	1	7	7	7												
Other brown	1	7	7	7									1	7	7	100
Penicillium/Aspergillus types																
Pithomyces	3	20	7	21												
Smuts, Periconia, Myxomycetes	1	7	7	7	1	7	7	33	1	7	7	33				
Stachybotrys																

Date of Sampling: 12-26-2012

Date of Receipt: 12-28-2012 Date of Report: 12-31-2012

#### **Comments:**

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample.

<sup>\*</sup>The DL/m3 has been rounded to a whole number.

<sup>‡</sup> A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x". § Total Fungal Spores has been rounded to two significant figures to reflect analytical precision.

Client: Leaaf Environmental, LLC

C/O: Mr. Jim Blazek

Re: UNO-NAVY Buildings 2-4

Date of Sampling: 12-26-2012 Date of Receipt: 12-28-2012 Date of Report: 12-31-2012

### SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:		UNO-027-AOC-019: Building 2-2nd Floor-Office 210 SW Corner None				NO-027-A0 ding 2-2nd Office 2	Floor-E			NO-027-AC ing 2-3rd Fl 311				NO-027-AC ding 2-2nd l Office 3	Floor-S	
Comments (see below)		None				None	:			None				None		
Lab ID-Version‡:		4511566	-1			4511567	7-1			4511568	-1			4511569	-1	
Analysis Date:		12/31/20	12			12/31/20	)12			12/31/20	12			12/31/20	12	
Sample volume (liters)		150				150				150				150		-
Background debris (1-4+)††		3+				2+				2+				2+		
8	Count Count/m3 DL/m3* %			Count	Count/m3	DL/m3*	%	Count	Count/m3	DL/m3*	%	Count	Count/m3	DL/m3*	%	
Hyphal fragments	7	47	7	n/a									1	7	7	n/a
Pollen																
§ TOTAL FUNGAL SPORES	1	7	n/a	100	3	20	n/a	100	1	7	n/a	100	4	27	n/a	100
Alternaria																
Ascospores	1	7	7	100	1	7	7	33								
Basidiospores					1	7	7	33					1	7	7	25
Bipolaris/Drechslera group																
Chaetomium																
Cladosporium									1	7	7	100				
Coelomycetes																
Curvularia													1	7	7	25
Epicoccum																
Nigrospora													1	7	7	25
Other brown																
Penicillium/Aspergillus types					1	7	7	33								
Smuts, Periconia, Myxomycetes													1	7	7	25
Stachybotrys																

#### **Comments:**

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample.

<sup>\*</sup>The DL/m3 has been rounded to a whole number.

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EMLab ID: 1009621, Page 5 of 8

6301 NW 5th Way, Suite 2850, Ft. Lauderdale, FL 33309 (877) 711-8400 Fax (954) 776-8485 www.emlab.com

Client: Leaaf Environmental, LLC

C/O: Mr. Jim Blazek

Date of Receipt: 12-28-2012 Date of Report: 12-31-2012 Re: UNO-NAVY Buildings 2-4

# SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:		UNO-027-AOC-023: Building 2-4th Floor-NE Office None				NO-027-AC ng 3-3rd Flo Corner Of	or-S of		Corner Office					JNO-027-AC ing 3-3rd Flo Corner Of	or-E of N	1W
Comments (see below)		None				None				None				None		
Lab ID-Version‡:		4511570	-1			4511571	-1			4511572	-1			4511573	-1	
Analysis Date:		12/31/20	12			12/31/20	12			12/31/20	12			12/31/20	12	
Sample volume (liters)		150				150				150				150		
Background debris (1-4+)††		2+				2+				2+				2+		
	Count Count/m3 DL/m3* %			Count	Count/m3	DL/m3*	%	Count	Count/m3	DL/m3*	%	Count	Count/m3	DL/m3*	%	
Hyphal fragments					1	7	7	n/a					2	13	7	n/a
Pollen																
§ TOTAL FUNGAL SPORES	3	20	n/a	100	2	13	n/a	100	1	7	n/a	100	6	40	n/a	100
Alternaria																
Ascospores																
Basidiospores	2	13	7	67									2	13	7	33
Bipolaris/Drechslera group																
Chaetomium																
Cladosporium	1	7	7	33									2	13	7	33
Coelomycetes																
Curvularia													2	13	7	33
Epicoccum																
Nigrospora					1	7	7	50								
Other brown									1	7	7	100				
Penicillium/Aspergillus types																
Stachybotrys																
Torula					1	7	7	50								

Date of Sampling: 12-26-2012

#### **Comments:**

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample.

<sup>\*</sup>The DL/m3 has been rounded to a whole number.

<sup>‡</sup> A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x". § Total Fungal Spores has been rounded to two significant figures to reflect analytical precision.

Client: Leaaf Environmental, LLC

C/O: Mr. Jim Blazek

Re: UNO-NAVY Buildings 2-4

Date of Sampling: 12-26-2012 Date of Receipt: 12-28-2012 Date of Report: 12-31-2012

### SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:		NO-027-AC				NO-027-AC				NO-027-AC				JNO-027-AC ng 3-3rd Flo		r of
	Buil	ding 3-3rd l Corner Of	Floor-N fice	E	Buildii	ng 3-3rd Flo f NE Corner	or-Office	ce S	Buildir	ng 3-3rd Flo Corner Of	or-w oi fice	SE	Bullul	Southern \	Wall	1 01
Comments (see below)		None				A				None				None		
Lab ID-Version‡:		4511574	-1			4511575	-1			4511576	-1			4511577	'-1	
Analysis Date:		12/31/20	12			12/31/20	12			12/31/20	12			12/31/20	12	
Sample volume (liters)		150				150				150				150		
Background debris (1-4+)††		2+				2+				2+				2+		
	Count Count/m3 DL/m3* %			Count	Count/m3	DL/m3*	%	Count	Count/m3	DL/m3*	%	Count	Count/m3	DL/m3*	%	
Hyphal fragments	1	7	7	n/a	1	7	7	n/a					1	7	7	n/a
Pollen																
§ TOTAL FUNGAL SPORES	2	13	n/a	100		< 7	n/a	100	2	13	n/a	100	5	33	n/a	100
Alternaria																
Ascospores																
Basidiospores													1	7	7	20
Bipolaris/Drechslera group																
Chaetomium																
Cladosporium	1	7	7	50					1	7	7	50	1	7	7	20
Coelomycetes																
Curvularia									1	7	7	50	1	7	7	20
Epicoccum	1	7	7	50												
Nigrospora													1	7	7	20
Other brown																
Penicillium/Aspergillus types																
Pithomyces													1	7	7	20
Stachybotrys																

**Comments:** A) No spores detected.

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample.

<sup>\*</sup>The DL/m3 has been rounded to a whole number.

<sup>‡</sup> A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x". § Total Fungal Spores has been rounded to two significant figures to reflect analytical precision.

Client: Leaaf Environmental, LLC

C/O: Mr. Jim Blazek

Re: UNO-NAVY Buildings 2-4

Date of Sampling: 12-26-2012 Date of Receipt: 12-28-2012 Date of Report: 12-31-2012

### SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:		Corner Office			UNO-027-AOC-032: Building 3-2nd Floor-W of SE Corner Office				UNO-027-AOC-033: Building 3-1st Floor-SE Corner Computer Office					NO-027-AC lding 3-1st F Corner Of	Floor-SV	
		N.T.				N.T.					Office			NT.		
Comments (see below)		None				None				None				None		
Lab ID-Version‡:		4511578				4511579				4511580-				4511581		
Analysis Date:		12/31/20	12			12/31/20	12			12/31/20	12			12/31/20	12	
Sample volume (liters)		150				150				150				150		
Background debris (1-4+)††		2+ Count   Count/m3   DI/m3*   %				2+				2+				2+		
	Count	Count/m3	DL/m3*	%	Count	Count/m3	DL/m3*	%	Count	Count/m3	DL/m3*	%	Count	Count/m3	DL/m3*	%
Hyphal fragments					1	7	7	n/a	2	13	7	n/a	7	47	7	n/a
Pollen																
§ TOTAL FUNGAL SPORES	1	7	n/a	100	3	20	n/a	100	1	7	n/a	100	14	93	n/a	100
Alternaria													1	7	7	7
Ascospores																
Basidiospores																
Bipolaris/Drechslera group																
Chaetomium													9	60	7	64
Cladosporium									1	7	7	100				
Coelomycetes																
Curvularia					1	7	7	33					1	7	7	7
Other brown	1	7	7	100	1	7	7	33					1	7	7	7
Penicillium/Aspergillus types													1	7	7	7
Pithomyces													1	7	7	7
Smuts, Periconia, Myxomycetes					1	7	7	33								
Stachybotrys																

#### **Comments:**

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample.

<sup>\*</sup>The DL/m3 has been rounded to a whole number.

<sup>‡</sup> A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x". § Total Fungal Spores has been rounded to two significant figures to reflect analytical precision.

Client: Leaaf Environmental, LLC

C/O: Mr. Jim Blazek

Re: UNO-NAVY Buildings 2-4

Date of Sampling: 12-26-2012 Date of Receipt: 12-28-2012 Date of Report: 12-31-2012

### SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	Building	UNO-027-AO g 4-1st Floor-SV		Office	Buildin	UNO-027-AO ag 4-1st Floor-E Office		rner	UNO-027-AOC-037: Exterior-Between Building 3 and 4					
Comments (see below)		None				A				None				
Lab ID-Version‡:		4511582-	-1			4511583-	1			4511584-	1			
Analysis Date:		12/31/201	12			12/31/201	2			12/31/201	2			
Sample volume (liters)		150				150				150				
Background debris (1-4+)††		2+				1+				1+				
	Count	Count/m3	DL/m3*	%	Count	Count/m3	DL/m3*	%	Count	Count/m3	DL/m3*	%		
Hyphal fragments	2	13	7	n/a	2	13	7	n/a	4	27	7	n/a		
Pollen														
§ TOTAL FUNGAL SPORES	3	20	n/a	100		< 7	n/a	100	113	750	n/a	100		
Alternaria														
Ascospores									12	80	7	11		
Basidiospores	1	7	7	33					76	510	7	67		
Bipolaris/Drechslera group														
Chaetomium														
Cladosporium														
Coelomycetes									16	110	7	14		
Curvularia														
Epicoccum														
Other brown									3	20	7	3		
Other colorless									1	7	7	1		
Penicillium/Aspergillus types	2	13	7	67					4	27	7	4		
Pestalotiopsis									1	7	7	1		
Stachybotrys														

**Comments:** A) No spores detected.

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample.

<sup>\*</sup>The DL/m3 has been rounded to a whole number.

<sup>‡</sup> A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x". § Total Fungal Spores has been rounded to two significant figures to reflect analytical precision.

#### Introduction

Molds are a natural and important part of our environment. They are ubiquitous and are found virtually everywhere. Molds produce tiny spores to reproduce. These spores can be found in both indoor and outdoor air and on indoor and outdoor surfaces. When mold spores land on a damp spot, they may begin growing and digesting whatever they are growing on in order to survive, leading to adverse conditions. In response to increasing public concern, a number of government authorities, including the United States EPA, California Department of Health Services and New York City Department of Health, have developed recommendations and guidelines for assessment and remediation of mold. Websites for these organizations can be found at the end of this report.

While it is generally accepted that molds can be allergenic and can lead to adverse health conditions in susceptible people, unfortunately there are no widely accepted or regulated interpretive standards or numerical guidelines for the interpretation of microbial data. The absence of standards often makes interpretation of microbial data difficult and controversial. This report has been designed to provide some basic interpretive information using certain assumptions and facts that have been extracted from a number of peer reviewed texts, such as the American Conference of Governmental Industrial Hygienists (ACGIH). In the absence of standards, the user must determine the appropriateness and applicability of this report to any given situation. Identification of the presence of a particular fungus in an indoor environment does not necessarily mean that the building occupants are or are not being exposed to antigenic or toxic agents.

None of the information contained herein should be construed as medical advice or a call to action for evacuation or remediation. Only a qualified physician should make any decision relative to medical significance.

EMLab P&K did not conduct the site investigation, provide consulting or collect the samples referenced in this report. EMLab P&K's primary involvement in this project is to provide analytical results for the samples submitted. The data presented in this report are based on the samples and accompanying information provided and represents concentrations at a point in time under the conditions sampled.

EMLab P&K's standard terms and conditions govern all aspects of this report.

#### **Materials**

Please refer to the chain of custody included with this report.

#### Methods

### 1. Surface Samples – Swab, Dust, Tape and Bulk Samples

Swab, Dust and Tape samples are mounted on a glass slide and observed under a bright field microscope for either Qualitative or Quantitative Examination. A bulk sample is also simultaneously observed under a stereomicroscope to look for signs of any visible discoloration or fungal growth, which is then mounted and observed under a bright field microscope for either Qualitative or Quantitative Examination. The samples are analyzed at a minimum of 200X magnification and up to a 1000X magnification. In the qualitative

examination, the prepared samples are observed for the presence of any structures or skewing of spore distribution that may indicate growth in the sample being analyzed. In the quantitative examination, the mold spores detected in the sample are counted and reported as spores per cm<sup>2</sup>, spores per gram (or 1000mg), or spores per swab/wipe, etc depending on the sample type. These methodologies do not differentiate between viable and non-viable fungal spores.

#### 2. Air Samples-Spore Trap Device

Spore traps are a unique sampling device designed for the rapid collection and analysis of a wide range of airborne particulates, including fungal spores. While analyzing the sample, the analyst takes a number of variables into account to select the proper analytical method to accurately determine the densities of the various spores on the trace. The densities of the debris and the spores on the trace will determine the approach to analyzing the sample. In general, the sample is directly mounted under the microscope and the various airborne particles detected are counted at a minimum of 200X magnification and up to 1000X magnification, with the entire trace (100% of the sample) being analyzed at 200X or 600X. This method does not differentiate between viable and non-viable fungal spores. This technique does not allow for the differentiation between *Aspergillus* and *Penicillium* spores. Additionally, depending on morphology, other non-distinctive spores are reported in categories such as ascospores or basidiospores. All slides are graded with the following debris scale for data qualification.

Debris Rating	Description	Interpretation						
None	No particles detected.	No particulates on slide. The absence of particulates could indicate improper sampling as most air samples typically capture some particles.						
<1+	Good visibility. A few particles detected.	Deported values are not offected by debuis						
1+	Good visibility. No crowding of particles.	Reported values are not affected by debris.						
2+	Decent visibility. Particles beginning to crowd.	Non-microbial particulates can mask the presence of fungal spores. As a result, actual values could be higher than the						
3+	Decent visibility. Particles beginning to crowd.	numbers reported. Higher debris ratings increase the probability of this bias.						
4+	Poor visibility. Particles beginning to overlap.	Excessive debris detected in the sample. Counts reported may vary drastically and actual values could be higher than						
>4+	Poor visibility. Particles overlapping.	the numbers reported. The sample should be collected at a shorter time interval, or other measures taken to reduce the collection of non-microbial debris. In addition, a >4+ rating will only allow for a count from the perimeter of the slide.						

#### 3. Comments

Comments identify issues or events that are relevant to your analytical results. A comment includes information about any peculiar observation or situation encountered while analyzing the sample. In each case, the comments provide significant information vital to the interpretation of the laboratory data.

# 4. Data Interpretation

According to ACGIH, "Data from individual sampling episodes is often interpreted with respect to baseline data from other environments or the same environment under anticipated low exposure conditions." In the absence of established acceptable exposure limits, it is often necessary to use a comparison standard when interpreting data. In this instance, it will be necessary to sample the suspect area as well as a non-suspect area.

According to ACGIH, "...active fungal growth in indoor environments is inappropriate and may lead to exposure and adverse health effects."

# a. Total Fungal Spores

According to ACGIH, ".... differences that can detected with manageable sample sizes are likely to be in 10- fold multiplicative steps (e.g., 100 versus 1000...)". Following this logic, if total fungal spores are ten (10) times greater in the sample from a suspect area than in the negative control sample collected from a non-suspect area, then that sample area may be a fungal amplification site.

# **b.** Mycelial Fragments

Mycelium is a fungal mass that constitutes the vegetative or living body of a fungus. Following the same logic above, if total mycelial fragments are ten (10) times greater in the suspect sample than in the negative control, then the sample area is considered to be a fungal amplification site. The presence of mycelial fragments provides evidence of microbial growth.

#### c. Mycotoxins

Molds can produce toxic substances called mycotoxins. More than 200 mycotoxins have been identified from common molds, and many more remain to be identified. Some of the molds that are known to produce mycotoxins are commonly found in moisture-damaged buildings. Exposure pathways for mycotoxins can include inhalation, ingestion, or skin contact. Although some mycotoxins are well known to affect humans and have been shown to be responsible for human health effects, for many mycotoxins, little information is available, and in some cases research is ongoing. Some molds can produce several toxins, and some molds produce mycotoxins only under certain environmental conditions. The presence of mold in a building does not necessarily mean that mycotoxins are present or that they are present in large quantities.

#### d. Water Indicator Molds

Certain authorities identify certain molds whose presence indicates excessive moisture. The presence of a few spores of indicator mold should be interpreted with caution. Additionally, it should be recognized that these named molds are not necessarily the only ones of potential significance.

#### e. Mold Glossary

Specific characteristics of the individual molds listed in the report are presented in Table 1.

#### f. Useful Resources

- i. Guidelines on Assessment and Remediation of Fungi in Indoor Environments, New York City Department of Health.
  - www.ci.nyc.ny.us/html/doh/html/epi/moldrpt1.html
- ii. Facts about Mold, New York City Department of Health. www.ci.nyc.ny.us/html/doh/html/epi/epimold.html

- iii. Mold Resources, United States Environmental Protection Agency. http://www.epa.gov/mold/moldresources.html
- iv. Mold in My Home, What do I do? California Department of Health Services. www.asbestos.org/Microbial/index.html

**Table 1: Summary of Specific Mold Characteristics** 

Fungi	Environmental Indicator	Typically Found
Alternaria		Alternaria is one of the more common fungi found in nature. It is found growing indoors on a variety of substrates including wallboards, painted walls, etc.
Arthrinium		Arthrinium is a saprobe and is found on plants. It is rarely found growing indoors.
Ascospores	★ 📑	Ascospores are ubiquitous in nature and are commonly found in the outdoor environment. Some fungi that belong to the ascomycete family include the sexual forms of <i>Penicillium/Aspergillus</i> , <i>Chaetomium</i> , etc that may be frequently found growing on damp substrates.
Aureobasidium		Aureobasidium is commonly found in a variety of soils. Indoors, it is commonly found where moisture accumulates, especially bathrooms, and kitchens, on shower curtains, tile grout, windowsills, textiles, and liquid waste materials.
Basidiospores		Basidiospores are Saprophytes and plant pathogens and are commonly found in gardens, forests, and woodlands. They also include organisms that are the agent of "dry rot," and other fungi that cause white and brown wood rot, which may grow and destroy the structural wood of buildings.
Bipolaris/ Dreschlera		Bipolaris and Dreschlera are usually found associated with plant debris, and soil. They are plant pathogens of numerous plants, particularly grasses. Bipolaris and Dreschlera can grow indoors on a variety of substrates.
Botrytis		Botrytis is commonly found in tropical and temperate climates growing on vegetative matter. They may be found indoors in conjugation with indoor plants, fruits and vegetables.
Chaetomium	★ 📑	Chaetomium is often found on materials containing cellulose such as sheetrock paper, or other wet materials.
Cladosporium		Cladosporium is a common outdoor mold. They are commonly found on dead plants, food, textiles, and a variety of other surfaces. Indoors, they can grow on a variety of substrates including textiles, wood, moist windowsills, etc. It can grow at 0°C and is associated with refrigerated foods.
Curvularia		Curvularia is found on plant materials and is considered a saprobe. Indoors, they can grow on a variety of substrates.
Epicoccum		<i>Epicoccum</i> is a saprophyte and considered a weekly parasitic secondary invader of plants. They tend to colonize continuously damp materials such as damp wallboard and fabrics.
Fusarium	* -	Fusarium requires very wet conditions and is frequently isolated from plants and grains. They colonize continuously damp materials such as damp wallboard and water reservoirs for humidifiers and drip pans.

Memnoniella			Memnoniella can be found growing on a variety of cellulose- containing materials.
Nigrospora			Nigrospora is especially abundant in warm climates and is rarely found growing indoors.
Oidium/ Peronospora			<i>Oidium</i> and <i>Peronospora</i> are plant pathogens and are not found growing indoors.
Penicillium/ Aspergillus	*	-	Penicillium and Aspergillus are ubiquitous in environment. Aspergillus tends to colonize continuously damp materials such as damp wallboard and fabrics. Penicillium is commonly found in house dusts, wallpaper, decaying fabrics, moist clipboards, etc.
Pithomyces/ Ulocladium			Pithomyces is commonly found on grass and decaying plant material and are rarely found growing indoors. Ulocladium has a high water requirement and therefore colonizes continuously damp materials such as damp wallboard and fabrics.
Rusts			Rusts are plant pathogens and only grow on host plants.
Smuts/ Periconia/ Myxomycetes			Smuts and Myxomycetes are parasitic plant pathogens that require a living host. Smuts do not usually grow indoors. <i>Periconia</i> are rarely found growing indoors. Myxomycetes are occasionally found indoors, but rarely growing.
Stachybotrys	*	- <u>\</u>	Stachybotrys are commonly found indoors on wet materials containing cellulose, such as wallboard, jute, wicker, straw baskets, and other paper materials.
Stemphylium			Stemphylium is either parasitic or saprophytic and is rarely found growing indoors.
Torula			Torula can grow indoors on cellulose containing materials such as wallboard, jute, wicker, straw baskets, and other paper materials.
Other brown/ colorless			An uncharacteristic fungal spore that does not lend itself to classification via direct microscopy.



Potential Water Intrusion/Indicator Mold

Potential Water Intrusion/Indicator Mold Capable of Mycotoxin Production

## **Quality Programs**

The EMLab P&K's laboratory network is staffed with highly trained analysts, the majority of which hold advanced degrees. The reliability of test results depends on many factors such as the personnel performing the tests, environmental conditions, selection and validation of test methods, equipment functioning, as well as the sampling, storage and handling of test items, all of which are a reflection of the overall quality system of the laboratory.

EMLab P&K has modeled its quality system after ISO 17025, General Requirements for the Competence of Testing and Calibration Laboratories, one of the most stringent sets of standards in the industry, to ensure that its customers receive the highest standard of accuracy, reliability, and impartiality that they have come to expect from the leader in the environmental industry. EMLab P&K's laboratories adherence to the standards set forth in ISO 17025 has been validated and formally recognized through accreditations granted by an independent outside agency, American Industrial Hygiene Association (AIHA), on a site by site basis. As an additional measure to demonstrate its competency to perform the analyses it offers to its clients, EMLab P&K laboratories

also participate in a variety of different proficiency testing programs, including the Environmental Microbiology Proficiency Analytical Testing Program (EMPAT) sponsored by the American Industrial Hygiene Association.

As part of our continuous commitment to excellence, EMLab P&K laboratories are also inspected, licensed and/or accredited by a number of governmental agencies and independent associations in addition to those already mentioned above. The scope of services, accreditation certificates, and proficiency results can all be accessed at <a href="www.emlabpk.com">www.emlabpk.com</a>.

#### References

- 1. Bioaerosols: Assessment and Control. Janet Macher, Ed., American Conference of Government Industrial Hygienists, Cincinnati, OH (1999).
- 2. EPA: The Inside Story. A Guide to Indoor Air Quality, United States Environmental Protection Agency and the United States Consumer Product Safety Commission, Washington DC (1995).
- 3. Health Canada: Exposure Guidelines for Residential Indoor Air Quality. Environmental Health Directorate. Health Protection Branch, Health Canada, Ottawa, Ontario (1989).
- 4. IIRC: Standard and Reference Guide for Professional Water Damage Restoration, 2nd Ed. Institute of Inspection, Cleaning and Restoration, Vancouver, WA (1999).
- 5. Field Guide for the Determination of Bio logical Contaminants in Environmental Samples. American Industrial Hygiene Association, Fairfax, VA (1996).
- 6. Standards of Practice for the Assessment of Indoor Environmental Quality, Volume I: Mold Sampling, Assessment of Mold Contamination. Indoor Environmental Standards Organization (2002).

Client: Leaaf Environmental, LLC

C/O: Mr. Jim Blazek

Re: UNO-NAVY Buildings 2-4

Date of Sampling: 12-26-2012 Date of Receipt: 12-28-2012 Date of Report: 12-31-2012

# MoldRANGE<sup>TM</sup>: Extended Outdoor Comparison

Outdoor Location: UNO-027-AOC-011, Exterior-Between Buildings 2 and 3

Fungi Identified	Outdoor	Typical Outdoor Data for:				:	Typical Outdoor Data for:						
	data	Dec	December in Louisiana (n‡=303)†			The er	ntire ye	ar in L	ouisian	a (n‡=	3927)†		
	spores/m3	very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
Generally able to grow indoors*													
Alternaria	-	7	13	26	53	110	42	13	13	40	110	210	57
Bipolaris/Drechslera group	-	7	13	13	40	87	26	7	13	27	53	93	37
Chaetomium	-	7	7	14	40	110	10	7	7	13	53	120	8
Cladosporium	-	80	160	560	1,800	3,800	94	96	210	830	2,800	5,500	96
Coelomycetes	-	-	-	-	-	-	< 1	-	-	-	-	-	< 1
Curvularia	-	11	13	29	93	160	38	13	13	40	160	390	51
Nigrospora	-	7	13	27	40	67	34	7	13	27	67	110	39
Other brown	-	13	13	27	40	66	33	7	13	27	53	80	27
Other colorless	-	13	13	40	93	140	9	7	13	29	86	200	8
Penicillium/Aspergillus types	-	27	53	160	570	1,500	76	53	80	270	890	1,800	79
Pestalotiopsis	7	-	-	-	-	-	1	7	7	13	40	40	3
Stachybotrys	-	-	-	-	-	-	3	7	13	27	170	1,200	3
Torula	-	7	13	13	40	130	10	7	13	20	49	86	16
Seldom found growing indoors**													
Ascospores	33	27	44	160	520	1,300	83	40	80	340	1,200	2,500	93
Basidiospores	800	80	160	640	3,100	6,800	97	87	200	880	3,900	9,400	98
Rusts	-	7	7	13	38	52	7	7	7	13	53	57	10
Smuts, Periconia, Myxomycetes	-	13	15	40	110	190	69	13	27	60	170	300	75
§ TOTAL SPORES/m3	840												

†The 'Typical Outdoor Data' represents the typical outdoor spore levels for the location and time frame indicated. The last column represents the frequency of occurrence. The very low, low, med, high, and very high values represent the 10, 20, 50, 80, and 90 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 20% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

 $\ddagger$ n = number of samples used to calculate data.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor data" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. In addition, EMLab P&K may not have received and tested a representative number of samples for every region or time period. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the use or interpretation of the data contained in, or any actions taken or omitted in reliance upon, this report.

EMLab P&K, LLC EMLab ID: 1009621, Page 1 of 2

<sup>\*</sup>The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

<sup>\*\*</sup>These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

Date of Sampling: 12-26-2012

Client: Leaaf Environmental, LLC

C/O: Mr. Jim Blazek

Date of Receipt: 12-28-2012 Re: UNO-NAVY Buildings 2-4 Date of Report: 12-31-2012

# MoldRANGE<sup>TM</sup>: Extended Outdoor Comparison

Outdoor Location: UNO-027-AOC-037, Exterior-Between Building 3 and 4

Fungi Identified	Outdoor	Typical Outdoor Data for:				Typical Outdoor Data for:							
	data	December in Louisiana (n‡=303)†			The er	ntire ye	ar in L	ouisian	a (n‡=	3927)†			
	spores/m3	very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
Generally able to grow indoors*													
Alternaria	-	7	13	26	53	110	42	13	13	40	110	210	57
Bipolaris/Drechslera group	-	7	13	13	40	87	26	7	13	27	53	93	37
Chaetomium	-	7	7	14	40	110	10	7	7	13	53	120	8
Cladosporium	-	80	160	560	1,800	3,800	94	96	210	830	2,800	5,500	96
Coelomycetes	110	-	-	-	-	-	< 1	-	-	-	-	-	< 1
Curvularia	-	11	13	29	93	160	38	13	13	40	160	390	51
Nigrospora	-	7	13	27	40	67	34	7	13	27	67	110	39
Other brown	20	13	13	27	40	66	33	7	13	27	53	80	27
Other colorless	7	13	13	40	93	140	9	7	13	29	86	200	8
Penicillium/Aspergillus types	27	27	53	160	570	1,500	76	53	80	270	890	1,800	79
Pestalotiopsis	7	-	-	-	-	-	1	7	7	13	40	40	3
Stachybotrys	-	-	-	-	-	-	3	7	13	27	170	1,200	3
Torula	-	7	13	13	40	130	10	7	13	20	49	86	16
Seldom found growing indoors**													
Ascospores	80	27	44	160	520	1,300	83	40	80	340	1,200	2,500	93
Basidiospores	510	80	160	640	3,100	6,800	97	87	200	880	3,900	9,400	98
Rusts	-	7	7	13	38	52	7	7	7	13	53	57	10
Smuts, Periconia, Myxomycetes	-	13	15	40	110	190	69	13	27	60	170	300	75
§ TOTAL SPORES/m3	750												

†The 'Typical Outdoor Data' represents the typical outdoor spore levels for the location and time frame indicated. The last column represents the frequency of occurrence. The very low, low, med, high, and very high values represent the 10, 20, 50, 80, and 90 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 20% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a

§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

 $\ddagger$ n = number of samples used to calculate data.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor data" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. In addition, EMLab P&K may not have received and tested a representative number of samples for every region or time period. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the use or interpretation of the data contained in, or any actions taken or omitted in reliance upon, this report.

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<sup>\*</sup>The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. Cladosporium is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

<sup>\*\*</sup>These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

Date of Sampling: 12-26-2012

Client: Leaaf Environmental, LLC

C/O: Mr. Jim Blazek

Date of Receipt: 12-28-2012 Re: UNO-NAVY Buildings 2-4 Date of Report: 12-31-2012

# MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

Outdoor Summary: UNO-027-AOC-011: Exterior-Between Buildings 2 and 3

Species detected		Outdoo	r sample sp	ores/m3	Typical outdoor range	s Freq.	
	<100 1K 10K >100K			(North America)	%		
Ascospores					33	13 - 190 - 5,400	76
Basidiospores					800	13 - 430 - 22,000	92
Cladosporium					< 7	27 - 480 - 10,000	91
Penicillium/Aspergillus types					< 7	13 - 160 - 2,600	69
Pestalotiopsis					7	7 - 13 - 53	2
Smuts, Periconia, Myxomycetes					< 7	7 - 47 - 970	64
Total					840		

The "Typical outdoor ranges" and "Freq. %" columns show the typical low, medium, and high spore counts per cubic meter and the frequency of occurrence for the given spore type. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values when the spore type is detected. For example, if the low value is 53 and the frequency of occurence is 63%, it would mean that we typically detect the given spore type on 63 percent of all outdoor samples and, when detected, 2.5% of the time it is present in levels below 53 spores/m3.

#### **Indoor Samples**

Location: UNO-027-AOC-012: Building 2-1st Floor-Office 134

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement (indoor/ou		Spearman ran correlation** (indoor/outdo	** (indoor	CORE**** c/outdoor)
Result: 2%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.0	0000	dF: 4 Result: -0.4000 Critical value: N Outside Similar: 1	Resu /A	re: 101 ılt: Low
Species	Detected			Spores/m3		
		<100	1K	10H	>	100K
	Cladosporium					20
	Total					20

Date of Sampling: 12-26-2012

Client: Leaaf Environmental, LLC

C/O: Mr. Jim Blazek

Date of Receipt: 12-28-2012 Re: UNO-NAVY Buildings 2-4 Date of Report: 12-31-2012

# MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

**Location:** UNO-027-AOC-013: Building 2-1st Floor-Stairwell

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreemen (indoor/	nt ratio** outdoor)	corre	man rank elation*** or/outdoor)	MoldSCORE**** (indoor/outdoor)		
Result: 29%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result:	0.3636	Resu Critical	dF: 9 alt: 0.2958 value: 0.5833 e Similar: No	Score: 118 Result: Low		
Species Detected				Spe	ores/m3			
_		<100	1K		10K	>1001	ζ	
	Ascospores						67	
	Basidiospores						20	
	Cladosporium						7	
	Curvularia						13	
	Other brown						20	
Penicillium/Aspergillus types							110	
Pithomyces							7	
Rusts							7	
	Total						250	

Location: LINO-027-AOC-014: Building 2-1st Floor-Chief Jones' Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman correlati (indoor/ou	on***		ORE**** outdoor)	
Result: 8%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Res	sult: 0.2222	dF: 8 Result: 0 Critical value Outside Sim	.1012 e: 0.6190	Score: 110 Result: Low		
Species 1	<b>Species Detected</b>			Spores	/m3			
_		<100	1K	_	10K	>10	00K	
	Alternaria						7	
	Basidiospores						27	
Bip	olaris/Drechslera group						7	
Cladosporium							13	
Other brown							7	
Smuts, Periconia, Myxomycetes							7	
	Total						67	

Date of Sampling: 12-26-2012

Client: Leaaf Environmental, LLC

C/O: Mr. Jim Blazek

Date of Receipt: 12-28-2012 Re: UNO-NAVY Buildings 2-4 Date of Report: 12-31-2012

# MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

**Location:** UNO-027-AOC-015: Building 2-1st Floor-Office 113

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)		nt ratio** outdoor)	correl	nan rank lation*** r/outdoor)	MoldSCORE**** (indoor/outdoor)		
Result: 11%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.3636		dF: 9 Result: -0.1708 Critical value: 0.5833 Outside Similar: No		Score: 119 Result: Low		
<b>Species Detected</b>				Spo	res/m3			
_		<100	1K	_	10K	>10	00K	
	Ascospores						7	
	Basidiospores						7	
	Cladosporium						27	
	Curvularia						13	
	Nigrospora						7	
						7		
						20		
Smuts, Periconia, Myxomycetes							7	
·	Total						93	

Location: UNO-027-AOC-016: Building 2-2nd Floor-Office 211 SE Corner

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 2%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.3333	dF: 5 Result: -0.1000 Critical value: 0.8000 Outside Similar: No	Score: 101 Result: Low
Species	Detected		Spores/m3	
		<100 1K	10K	>100K
	Basidiospores			7
	Cladosporium			7
Smuts, Periconia, Myxomycetes				7
	Total			20

Client: Leaaf Environmental, LLC C/O: Mr. Jim Blazek

Re: UNO-NAVY Buildings 2-4

Date of Sampling: 12-26-2012 Date of Receipt: 12-28-2012 Date of Report: 12-31-2012

## MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

Location: UNO-027-AOC-017: Building 2-2nd Floor-Office 211 NW Corner

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 2%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.3333	dF: 5 Result: -0.1000 Critical value: 0.8000 Outside Similar: No	Score: 104 Result: Low
Species 1	Detected		Spores/m3	
		<100 1K	10K	>100K
	Basidiospores			7
	Curvularia			7
Smuts, Periconia, Myxomycetes				7
	Total			20

**Location:** UNO-027-AOC-018: Building 2-2nd Floor-Office 210 NE Corner

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.0000	dF: 4 Result: -0.4000 Critical value: N/A Outside Similar: N/A	Score: 103 Result: Low
Species 1	Species Detected		Spores/m3	
		<100 1K	10K	>100K
	Other brown			7
	Total			7

Location: UNO-027-AOC-019: Building 2-2nd Floor-Office 210 SW Corner

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.5000	dF: 3 Result: 0.1250 Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
Species 1	Species Detected		Spores/m3	
		<100 1K	10K	>100K
	Ascospores			7
	Total			7

Date of Sampling: 12-26-2012

Client: Leaaf Environmental, LLC Date of Receipt: 12-28-2012 C/O: Mr. Jim Blazek Re: UNO-NAVY Buildings 2-4 Date of Report: 12-31-2012

## MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

Location: UNO-027-AOC-020: Building 2-2nd Floor-E of Office 209

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 2%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.6667	dF: 4 Result: 0.4000 Critical value: N/A Outside Similar: N/A	Score: 101 Result: Low	
Species 1	Detected		Spores/m3		
		<100 1K	10K	>100K	
	Ascospores			7	
	Basidiospores			7	
Penicillium/Aspergillus types				7	
	Total			20	

**Location:** UNO-027-AOC-021: Building 2-3rd Floor-Office 311

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.0000	dF: 4 Result: -0.4000 Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
Species	Species Detected		Spores/m3	
		<100 1K	10K	>100K
	Cladosporium			7
	Total			7

Location: UNO-027-AOC-022: Building 2-2nd Floor-S of Office 311

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 3%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.2857		dF: 6 Result: -0.1286 Critical value: 0.7714 Outside Similar: No	Score: 107 Result: Low
Species 1	Detected			Spores/m3	
		<100	1K	10K	>100K
	Basidiospores				7
	Curvularia				7
Nigrospora					7
Smuts, Periconia, Myxomycetes					7
	Total				27

Date of Sampling: 12-26-2012

Client: Leaaf Environmental, LLC

C/O: Mr. Jim Blazek

Date of Receipt: 12-28-2012 Re: UNO-NAVY Buildings 2-4 Date of Report: 12-31-2012

## MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

Location: UNO-027-AOC-023: Building 2-4th Floor-NE Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 2%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.4000	dF: 4 Result: 0.3500 Critical value: N/A Outside Similar: N/A	Score: 101 Result: Low
Species 1	Detected		Spores/m3	
		<100 1K	10K	>100K
	Basidiospores			13
	Cladosporium			7
	Total			20

Location: UNO-027-AOC-024: Building 3-3rd Floor-S of SW Corner Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)		eement ratio** loor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 1%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	R	Result: 0.0000	dF: 5 Result: -0.6000 Critical value: 0.8000 Outside Similar: No	
Species 1	Detected			Spores/m3	
_		<100	1K	10K	>100K
	Nigrospora				7
	Torula				7
	Total				13

Location: UNO-027-AOC-025: Building 3-3rd Floor-SW Corner Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.0000	dF: 4 Result: -0.4000 Critical value: N/A Outside Similar: N/A	Score: 103 Result: Low
Species	Species Detected		Spores/m3	
		<100 1K	10K	>100K
	Other brown			7
	Total			7

Client: Leaaf Environmental, LLC

C/O: Mr. Jim Blazek

Re: UNO-NAVY Buildings 2-4

Date of Sampling: 12-26-2012 Date of Receipt: 12-28-2012 Date of Report: 12-31-2012

## MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

Location: UNO-027-AOC-026: Building 3-3rd Floor-E of NW Corner Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 4%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.3333	dF: 5 Result: -0.1000 Critical value: 0.8000 Outside Similar: No	Score: 105 Result: Low
Species 1	Detected		Spores/m3	
		<100 1K	10K	>100K
	Basidiospores			13
	Cladosporium			13
	Curvularia			13
	Total			40

Location: UNO-027-AOC-027: Building 3-3rd Floor-NE Corner Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio <sup>2</sup> (indoor/outdoor		MoldSCORE**** (indoor/outdoor)	
Result: 1%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.0000	dF: 5 Result: -0.6000 Critical value: 0.8000 Outside Similar: No	Score: 103 Result: Low	
Species 1	Detected		Spores/m3		
		<100	K 10K	>100K	
	Cladosporium			7	
	Epicoccum			7	
	Total			13	

Location: UNO-027-AOC-028: Building 3-3rd Floor-Office S of NE Corner Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)		ement ratio** loor/outdoor)	corr	rman rank elation*** or/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	R	esult: 0.0000	Re Critica	dF: N/A esult: N/A al value: N/A e Similar: N/A	Score: 100 Result: Low
<b>Species Detected</b>				Sp	ores/m3	
		<100	1K		10K	>100K
	None Detected					< 7

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Client: Leaaf Environmental, LLC C/O: Mr. Jim Blazek

Re: UNO-NAVY Buildings 2-4

Date of Sampling: 12-26-2012 Date of Receipt: 12-28-2012 Date of Report: 12-31-2012

## MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

Location: UNO-027-AOC-029: Building 3-3rd Floor-W of SE Corner Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 1%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.0000	dF: 5 Result: -0.6000 Critical value: 0.8000 Outside Similar: No	Score: 103 Result: Low	
Species 1	Detected		Spores/m3		
		<100 1K	10K	>100K	
	Cladosporium			7	
	Curvularia			7	
	Total			13	

Location: UNO-027-AOC-030: Building 3-3rd Floor-Center of Southern Wall

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)		
Result: 4%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.2500		dF: 7 Result: -0.0982 Critical value: 0.6786 Outside Similar: No	Score: 108 Result: Low		
<b>Species Detected</b>		Spores/m3					
		<100	1K	10K	>100K		
	Basidiospores				7		
	Cladosporium				7		
	Curvularia				7		
Nigrospora					7		
Pithomyces					7		
	Total				33		

Location: UNO-027-AOC-031: Building 3-2nd Floor-SE Corner Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)		MoldSCORE**** (indoor/outdoor)	
Result: < 1%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.0000		dF: 4 Result: -0.4000 Critical value: N/A Outside Similar: N/A		Score: 103 Result: Low	
Species 1	Detected			Spor	es/m3		
_		<100	1K		10K	>100K	
	Other brown					7	
	Total					7	

Date of Sampling: 12-26-2012

Client: Leaaf Environmental, LLC

C/O: Mr. Jim Blazek

Date of Receipt: 12-28-2012 Re: UNO-NAVY Buildings 2-4 Date of Report: 12-31-2012

## MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

**Location:** UNO-027-AOC-032: Building 3-2nd Floor-W of SE Corner Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 2%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.0000		dF: 6 Result: -0.6000 Critical value: 0.7714 Outside Similar: No	Score: 107 Result: Low	
Species 1	Detected			Spores/m3		
		<100	1K	10K	>100K	
	Curvularia				7	
Other brown					7	
Smuts, Periconia, Myxomycetes					7	
	Total				20	

Location: UNO-027-AOC-033: Building 3-1st Floor-SE Corner Computer Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		correlation*** (indoor/outdoor)		MoldSCORE**** (indoor/outdoor)	
Result: < 1%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.0000		Result Critical	F: 4 : -0.4000 value: N/A similar: N/A	Score: 100 Result: Low	
Species	Detected	z100	117	Spor	res/m3	> 100V	
	Cladosporium	<100	1K		10K	>100K	
	Total						

Client: Leaaf Environmental, LLC C/O: Mr. Jim Blazek

Re: UNO-NAVY Buildings 2-4

Date of Sampling: 12-26-2012 Date of Receipt: 12-28-2012 Date of Report: 12-31-2012

## MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

**Location:** UNO-027-AOC-034: Building 3-1st Floor-SW Corner Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)		
Result: 11%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.0000		dF: 9 Result: -0.4292 Critical value: 0.5833 Outside Similar: No	Score: 190 Result: Medium		
<b>Species Detected</b>		Spores/m3					
_		<100	1K	10K	>100K		
	Alternaria				7		
	Chaetomium				60		
	Curvularia				7		
	Other brown				7		
Penicillium/Aspergillus types					7		
Pithomyces					7		
	Total				93		

Location: UNO-027-AOC-035: Building 4-1st Floor-SW Corner Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)		MoldSCORE**** (indoor/outdoor)	
Result: 2%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.4000		dF: 4 Result: -0.2500 Critical value: N/A Outside Similar: N/A		Score: 102 Result: Low	
Species 1	Detected	100		Spor	res/m3	40077	
		<100	1K		10K	>100K	
Basidiospores						7	
Penicillium/Aspergillus types						13	
	Total					20	

Location: UNO-027-AOC-036: Building 4-1st Floor-E of SW Corner Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)		
Result: < 1%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low		
Species Detected		Spores/m3				
		<100 1K	10K	>100K		
	None Detected			< 7		

Client: Leaaf Environmental, LLC

C/O: Mr. Jim Blazek

Re: UNO-NAVY Buildings 2-4

Date of Sampling: 12-26-2012 Date of Receipt: 12-28-2012 Date of Report: 12-31-2012

#### MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

- \* The Friedman chi-square statistic is a non-parametric test that examines variation in a set of data (in this case, all indoor spore counts). The null hypothesis (H0) being tested is that there is no meaningful difference in the data for all indoor locations. The alternative hypothesis (used if the test disproves the null hypothesis) is that there is a difference between the indoor locations. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.
- \*\* An agreement ratio is a simple method for assessing the similarity of two samples (in this case the indoor sample and the outdoor summary) based on the spore types present. A score of one indicates that the types detected in one location are the same as that in the other. A score of zero indicates that none of the types detected indoors are present outdoors. Typically, an agreement of 0.8 or higher is considered high.
- \*\*\* The Spearman rank correlation is a non-parametric test that examines correlation between two sets of data (in this case the indoor location and the outdoor summary). The null hypothesis (H0) being tested is that the indoor and outdoor samples are unrelated. The alternative hypothesis (used if the test disproves the null hypothesis) is that the samples are similar. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.
- \*\*\*\* MoldSCORE<sup>TM</sup> is a specialized method for examining air sampling data. It is a score between 100 and 300, with 100 indicating a greater likelihood that the airborne indoor spores originated from the outside, and 300 indicating a greater likelihood that they originated from an inside source. The Result displayed is based on the numeric score given and will be either Low, Medium, or High, indicating a low, medium, or high likelihood that the spores detected originated from an indoor source. EMLab P&Kreserves the right to, and may at anytime, modify or change the MoldScore algorithm without notice.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor ranges" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. With the statistical analysis provided, as with all statistical comparisons and analyses, false-positive and false-negative results can and do occur. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the data contained in, or any actions taken or omitted in reliance upon, this report.

Client: Leaaf Environmental, LLC

Date of Sampling: 12-26-2012

C/O: Mr. Jim Blazek
Re: UNO-NAVY Buildings 2-4
Date of Receipt: 12-28-2012
Date of Report: 12-31-2012

### MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

Outdoor Summary: UNO-027-AOC-037: Exterior-Between Building 3 and 4

Species detected		Outdoor	r sample s <sub>l</sub>	pores/m3	}	Typical	outdo	or ranges	Freq.
	<100	1K	10K	>100K		(North America)			%
Ascospores					80	13 -	190	- 5,400	76
Basidiospores					510	13 -	430	- 22,000	92
Cladosporium					< 7	27 -	480	- 10,000	91
Coelomycetes					110	7 -	140	- 1,300	< 1
Other brown					20	7 -	13	- 120	25
Other colorless					7	7 -	20	- 500	5
Penicillium/Aspergillus types					27	13 -	160	- 2,600	69
Pestalotiopsis					7	7 -	13	- 53	2
Smuts, Periconia, Myxomycetes					< 7	7 -	47	- 970	64
Total					750				

The "Typical outdoor ranges" and "Freq. %" columns show the typical low, medium, and high spore counts per cubic meter and the frequency of occurrence for the given spore type. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values when the spore type is detected. For example, if the low value is 53 and the frequency of occurrence is 63%, it would mean that we typically detect the given spore type on 63 percent of all outdoor samples and, when detected, 2.5% of the time it is present in levels below 53 spores/m3.

#### **Indoor Samples**

Location: UNO-027-AOC-012: Building 2-1st Floor-Office 134

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 2%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.0000	dF: 8 Result: 0.0060 Critical value: 0.6190 Outside Similar: No	Score: 101 Result: Low	
Species 1	Detected		Spores/m3		
		<100 1K	10K	>100K	
	Cladosporium				
	Total			20	

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Client: Leaaf Environmental, LLC C/O: Mr. Jim Blazek

Re: UNO-NAVY Buildings 2-4

Date of Sampling: 12-26-2012 Date of Receipt: 12-28-2012 Date of Report: 12-31-2012

## MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

**Location:** UNO-027-AOC-013: Building 2-1st Floor-Stairwell

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)		MoldSCORE**** (indoor/outdoor)	
Result: 32%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.5333		dF: 11 Result: 0.3364 Critical value: 0.5273 Outside Similar: No		Score: 117 Result: Low	
<b>Species Detected</b>				Spo	ores/m3		
		<100	1K	_	10K	>100K	
	Ascospores						67
	Basidiospores						20
	Cladosporium						7
	Curvularia						13
	Other brown						20
Penicillium/Aspergillus types							110
Pithomyces							7
Rusts							7
	Total						250

Location: LINO-027-AOC-014: Building 2-1st Floor-Chief Jones' Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)		MoldSCORE**** (indoor/outdoor)	
Result: 8%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.3077		dF: 11 Result: -0.1545 Critical value: 0.5273 Outside Similar: No		Score: 109 Result: Low	
<b>Species Detected</b>		Spores/m3					
_		<100	1K	_	10K	>10	0K
	Alternaria						7
	Basidiospores						27
Bip	olaris/Drechslera group						7
_	Cladosporium						13
Other brown							7
Smuts, Periconia, Myxomycetes							7
	Total						67

Date of Sampling: 12-26-2012

Client: Leaaf Environmental, LLC

C/O: Mr. Jim Blazek

Date of Receipt: 12-28-2012 Re: UNO-NAVY Buildings 2-4 Date of Report: 12-31-2012

## MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

Location: UNO-027-AOC-015: Building 2-1st Floor-Office 113

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio* (indoor/outdoor)		MoldSCORE**** (indoor/outdoor)
Result: 12%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.4000	dF: 12 Result: -0.4248 Critical value: 0.4965 Outside Similar: No	Score: 119 Result: Low
Species Detected			Spores/m3	
		<100 11	X 10K	>100K
	Ascospores			
	Basidiospores			7
	Cladosporium			27
	Curvularia			13
	Nigrospora			7
	Other brown			7
Pithomyces				
Smuts, P	Smuts, Periconia, Myxomycetes			7
·	Total			93

Location: UNO-027-AOC-016: Building 2-2nd Floor-Office 211 SE Corner

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio (indoor/outdoor		MoldSCORE**** (indoor/outdoor)
Result: 2%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.2000	dF: 9 Result: -0.0542 Critical value: 0.5833 Outside Similar: No	Score: 101 Result: Low
Species	Detected		Spores/m3	
		<100	K 10K	>100K
	Basidiospores			7
Cladosporium				7
Smuts, Periconia, Myxomycetes				7
	Total			20

Date of Sampling: 12-26-2012

Client: Leaaf Environmental, LLC

C/O: Mr. Jim Blazek

Date of Receipt: 12-28-2012 Re: UNO-NAVY Buildings 2-4 Date of Report: 12-31-2012

## MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

Location: UNO-027-AOC-017: Building 2-2nd Floor-Office 211 NW Corner

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 2%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.2000	dF: 9 Result: -0.0542 Critical value: 0.5833 Outside Similar: No	Score: 104 Result: Low
Species 1	Detected		Spores/m3	
		<100 1K	10K	>100K
	Basidiospores			7
Curvularia				7
Smuts, Periconia, Myxomycetes				7
	Total			20

Location: UNO-027-AOC-018: Building 2-2nd Floor-Office 210 NE Corner

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreemen (indoor/o		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0	0.2500	dF: 7 Result: 0.1964 Critical value: 0.6786 Outside Similar: No	Score: 103 Result: Low
Species 1	Species Detected			Spores/m3	
		<100	1K	10K	>100K
	Other brown				7
	Total				7

Location: UNO-027-AOC-019: Building 2-2nd Floor-Office 210 SW Corner

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio (indoor/outdoo	r) cor	arman rank relation*** oor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.2500	Critic	dF: 7 esult: 0.4464 al value: 0.6786 ide Similar: No	Score: 100 Result: Low
Species 1	Species Detected		S	pores/m3	
		<100	1K	10K	>100K
Ascospores					7
	Total				7

Date of Sampling: 12-26-2012

Client: Leaaf Environmental, LLC

C/O: Mr. Jim Blazek

Date of Receipt: 12-28-2012 Re: UNO-NAVY Buildings 2-4 Date of Report: 12-31-2012

## MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

Location: UNO-027-AOC-020: Building 2-2nd Floor-E of Office 209

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 2%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.6000		dF: 7 Result: 0.6339 Critical value: 0.6786 Outside Similar: No	Score: 101 Result: Low
Species 1	Detected			Spores/m3	
		<100	1K	10K	>100K
	Ascospores				7
Basidiospores					7
Penicillium/Aspergillus types					7
	Total				20

**Location:** UNO-027-AOC-021: Building 2-3rd Floor-Office 311

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.0000	dF: 8 Result: 0.0060 Critical value: 0.6190 Outside Similar: No	Score: 100 Result: Low
Species	Species Detected		Spores/m3	
		<100 1K	10K	>100K
	Cladosporium			7
	Total			7

Location: UNO-027-AOC-022: Building 2-2nd Floor-S of Office 311

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)		ent ratio** /outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 3%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.1818		dF: 10 Result: -0.2121 Critical value: 0.5515 Outside Similar: No	Score: 107 Result: Low
Species 1	Detected			Spores/m3	
		<100	1K	10K	>100K
	Basidiospores				7
	Curvularia				7
Nigrospora					7
Smuts, Periconia, Myxomycetes					7
l ·	Total				27

Client: Leaaf Environmental, LLC

C/O: Mr. Jim Blazek

Re: UNO-NAVY Buildings 2-4

Date of Sampling: 12-26-2012 Date of Receipt: 12-28-2012 Date of Report: 12-31-2012

## MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

Location: UNO-027-AOC-023: Building 2-4th Floor-NE Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 2%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.2222	dF: 8 Result: 0.2976 Critical value: 0.6190 Outside Similar: No	Score: 101 Result: Low
Species 1	Detected		Spores/m3	
		<100 1K	10K	>100K
	Basidiospores			13
	Cladosporium			7
	Total			20

Location: UNO-027-AOC-024: Building 3-3rd Floor-S of SW Corner Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)		ement ratio** oor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 1%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Re	esult: 0.0000	dF: 9 Result: -0.2792 Critical value: 0.5833 Outside Similar: No	Score: 106 Result: Low
Species 1	Detected			Spores/m3	
		<100	1K	10K	>100K
	Nigrospora				7
	Torula				7
	Total				13

Location: UNO-027-AOC-025: Building 3-3rd Floor-SW Corner Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.2500	dF: 7 Result: 0.1964 Critical value: 0.6786 Outside Similar: No	Score: 103 Result: Low
Species	Species Detected		Spores/m3	
		<100 1K	10K	>100K
	Other brown			7
	Total			7

Date of Sampling: 12-26-2012

Client: Leaaf Environmental, LLC

C/O: Mr. Jim Blazek

Date of Receipt: 12-28-2012 Re: UNO-NAVY Buildings 2-4 Date of Report: 12-31-2012

## MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

Location: UNO-027-AOC-026: Building 3-3rd Floor-E of NW Corner Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 5%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.2000	dF: 9 Result: -0.0542 Critical value: 0.5833 Outside Similar: No	Score: 105 Result: Low
Species 1	Detected		Spores/m3	
		<100 1K	10K	>100K
	Basidiospores			13
	Cladosporium			13
	Curvularia			13
	Total			40

Location: UNO-027-AOC-027: Building 3-3rd Floor-NE Corner Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 1%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.0000	dF: 9 Result: -0.2792 Critical value: 0.5833 Outside Similar: No	Score: 103 Result: Low	
Species 1	Detected		Spores/m3		
		<100 1K	10K	>100K	
	Cladosporium			7	
	Epicoccum			7	
	Total			13	

Location: UNO-027-AOC-028: Building 3-3rd Floor-Office S of NE Corner Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)		ement ratio** loor/outdoor)	corr	rman rank elation*** or/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	R	esult: 0.0000	Re Critica	dF: N/A esult: N/A al value: N/A e Similar: N/A	Score: 100 Result: Low
Species	<b>Species Detected</b>			Sp	ores/m3	
		<100	1K		10K	>100K
None Detected						< 7

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Client: Leaaf Environmental, LLC C/O: Mr. Jim Blazek

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Re: UNO-NAVY Buildings 2-4
Date of Receipt: 12-28-2012
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## MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

Location: UNO-027-AOC-029: Building 3-3rd Floor-W of SE Corner Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 1%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.0000	dF: 9 Result: -0.2792 Critical value: 0.5833 Outside Similar: No	Score: 103 Result: Low
Species 1	Detected		Spores/m3	
	_		10K	>100K
	Cladosporium			7
Curvularia				7
	Total			13

Location: UNO-027-AOC-030: Building 3-3rd Floor-Center of Southern Wall

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)		
Result: 4%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.1667		dF: 11 Result: -0.3000 Critical value: 0.5273 Outside Similar: No	Score: 108 Result: Low		
Species Detected		Spores/m3					
		<100	1K	10K	>100K		
	Basidiospores				7		
	Cladosporium				7		
Curvularia					7		
Nigrospora					7		
Pithomyces					7		
	Total				33		

Location: UNO-027-AOC-031: Building 3-2nd Floor-SE Corner Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.2500	dF: 7 Result: 0.1964 Critical value: 0.6786 Outside Similar: No	Score: 103 Result: Low
Species	Detected		Spores/m3	
		<100 1K	10 <b>K</b>	>100K
Other brown				7
	Total			7

Client: Leaaf Environmental, LLC

C/O: Mr. Jim Blazek

Re: UNO-NAVY Buildings 2-4

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## MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

Location: UNO-027-AOC-032: Building 3-2nd Floor-W of SE Corner Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 2%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.2000		dF: 9 Result: -0.3542 Critical value: 0.5833 Outside Similar: No	Score: 107 Result: Low
Species	Detected			Spores/m3	
		<100	1K	10K	>100K
	Curvularia				7
Other brown					7
Smuts, Periconia, Myxomycetes					7
	Total				20

Location: UNO-027-AOC-033: Building 3-1st Floor-SE Corner Computer Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.0000		dF: 8 Result: 0.0060 Critical value: 0.6190 Outside Similar: No	Score: 100 Result: Low
Species 1	Species Detected			Spores/m3	
		<100	1K	10K	>100K
Cladosporium					7
	Total				7

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## MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

Location: UNO-027-AOC-034: Building 3-1st Floor-SW Corner Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 12%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.3077		dF: 11 Result: -0.4795 Critical value: 0.5273 Outside Similar: No	Score: 190 Result: Medium	
Species 1	Species Detected			Spores/m3		
		<100	1K	10K	>100K	
	Alternaria				7	
	Chaetomium				60	
	Curvularia				7	
	Other brown				7	
Penicillium/Aspergillus types					7	
Pithomyces					7	
	Total				93	

Location: UNO-027-AOC-035: Building 4-1st Floor-SW Corner Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)		MoldSCORE**** (indoor/outdoor)
Result: 2%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.4444		dF: 7 Result: 0.5089 Critical value: 0.6786 Outside Similar: No		Score: 102 Result: Low
Species 1	Detected	<100	1K	Spo	res/m3	>100K
Basidiospores Penicillium/Aspergillus types <b>Total</b>					10K	>100K 7 13 20

Location: UNO-027-AOC-036: Building 4-1st Floor-E of SW Corner Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 24 Result: 27.0788 Critical value: 36.4150 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
Species 1	Detected		Spores/m3	
		<100 1K	10K	>100K
	None Detected			<7

Client: Leaaf Environmental, LLC

C/O: Mr. Jim Blazek

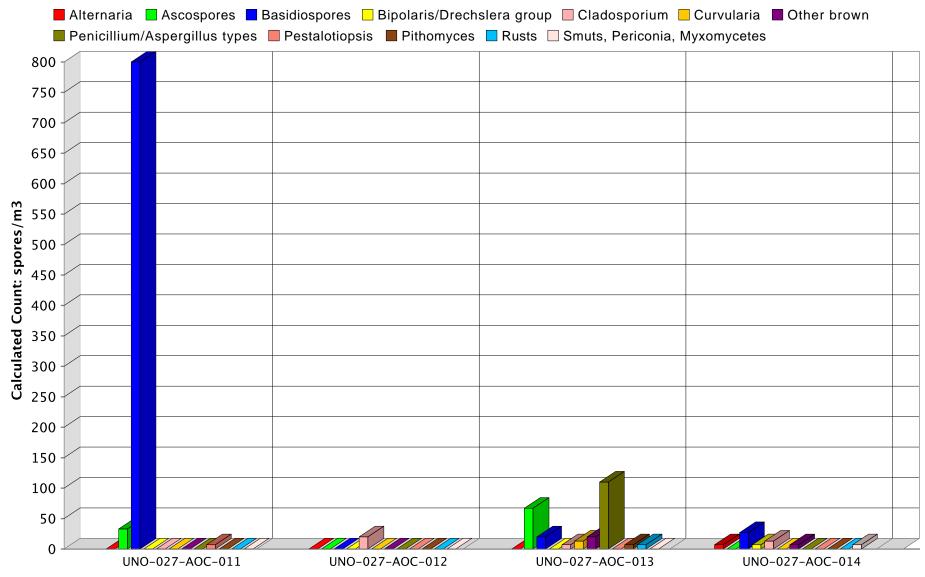
Re: UNO-NAVY Buildings 2-4

Date of Sampling: 12-26-2012 Date of Receipt: 12-28-2012 Date of Report: 12-31-2012

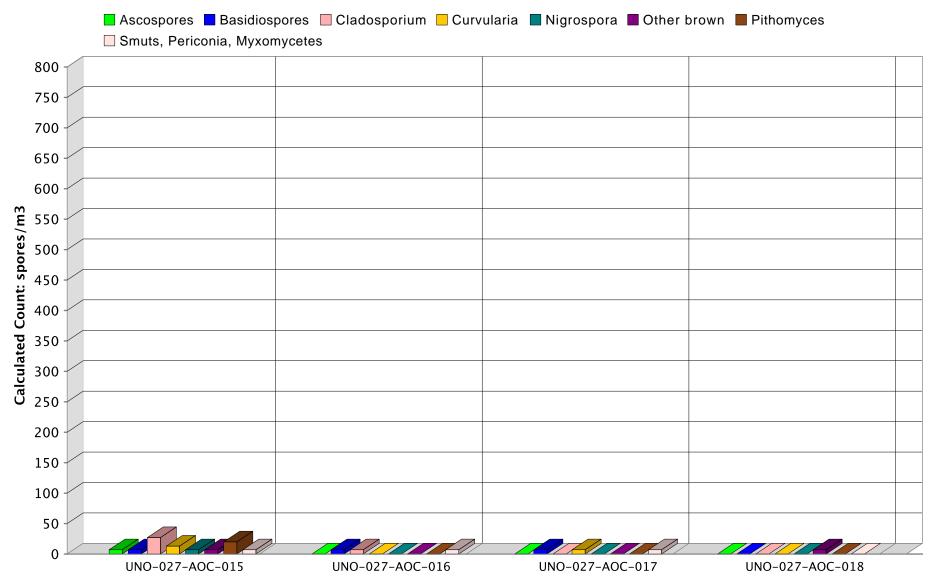
#### MoldSTAT<sup>TM</sup>: Supplementary Statistical Spore Trap Report

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- \*\* An agreement ratio is a simple method for assessing the similarity of two samples (in this case the indoor sample and the outdoor summary) based on the spore types present. A score of one indicates that the types detected in one location are the same as that in the other. A score of zero indicates that none of the types detected indoors are present outdoors. Typically, an agreement of 0.8 or higher is considered high.
- \*\*\* The Spearman rank correlation is a non-parametric test that examines correlation between two sets of data (in this case the indoor location and the outdoor summary). The null hypothesis (H0) being tested is that the indoor and outdoor samples are unrelated. The alternative hypothesis (used if the test disproves the null hypothesis) is that the samples are similar. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.
- \*\*\*\* MoldSCORE<sup>TM</sup> is a specialized method for examining air sampling data. It is a score between 100 and 300, with 100 indicating a greater likelihood that the airborne indoor spores originated from the outside, and 300 indicating a greater likelihood that they originated from an inside source. The Result displayed is based on the numeric score given and will be either Low, Medium, or High, indicating a low, medium, or high likelihood that the spores detected originated from an indoor source. EMLab P&Kreserves the right to, and may at anytime, modify or change the MoldScore algorithm without notice.

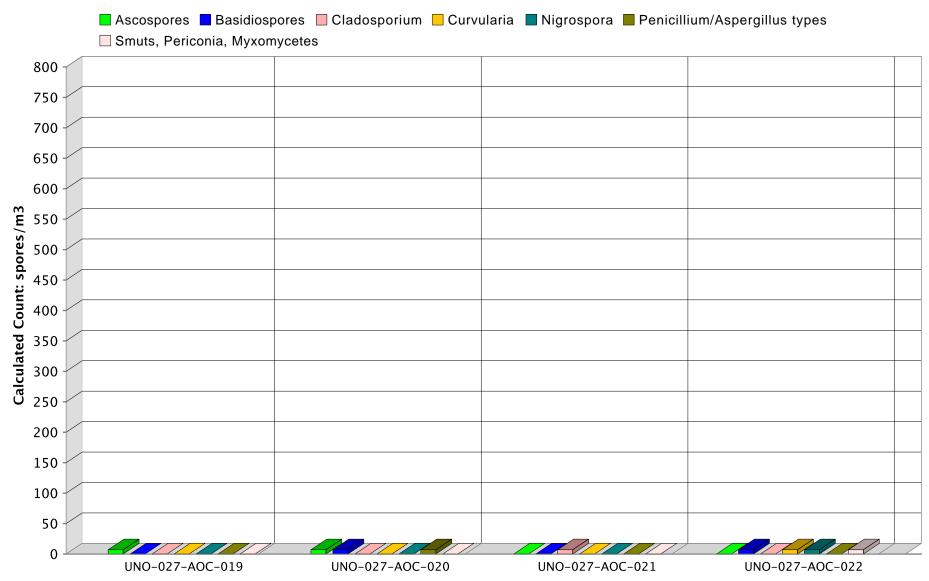
Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor ranges" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. With the statistical analysis provided, as with all statistical comparisons and analyses, false-positive and false-negative results can and do occur. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the data contained in, or any actions taken or omitted in reliance upon, this report.



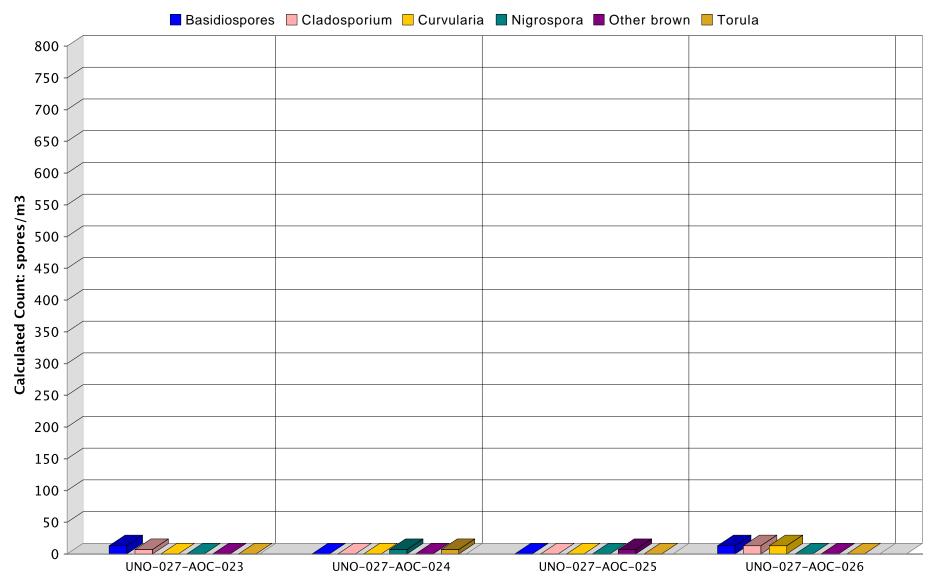
**Comments:** 



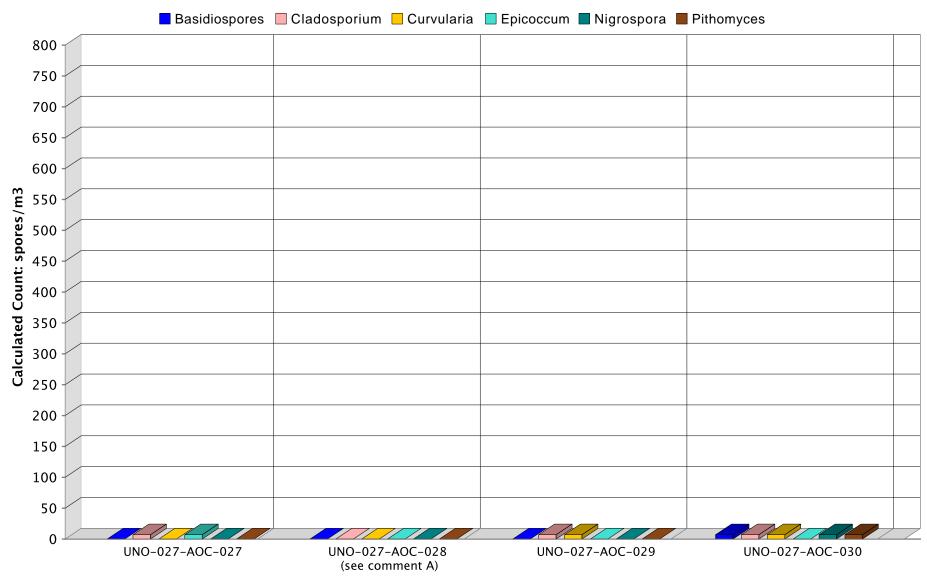
#### **Comments:**



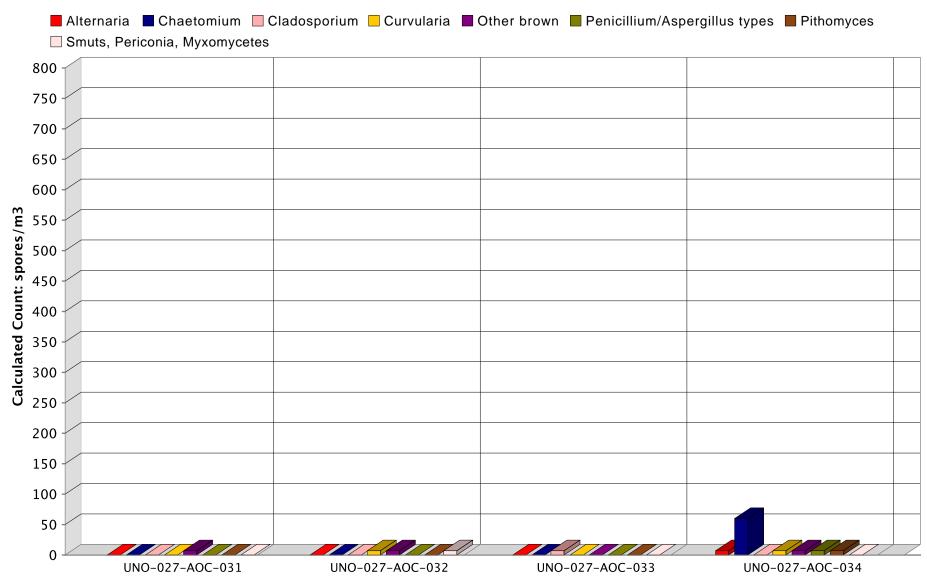
**Comments:** 



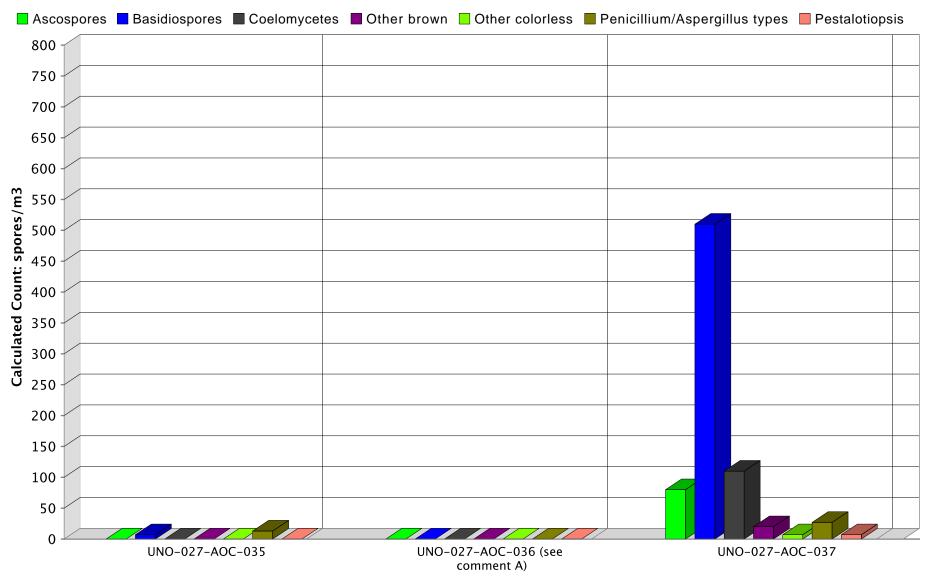
**Comments:** 



**Comments:** A) No spores detected.



**Comments:** 



Comments: A) No spores detected.

# Leaaf

## **Mold Chain of Custody**



Project Name:	UNO - N	AVY	Buildings 2-4				Project#	UNO-027
Address:	2285 Lak	cesho	re Drive, New Or	leans	, L <u>A 70122</u>			
Leaaf Contact:	Jim Blaze	ek, Jr				Ema	ail jim@leaəf.	<u>com</u>
Turnaround	☐Same Day ☐ 24 Hr ☐ 48 Hr ☐ 72hr ☐ Stan					tard		
Sample By:	Jim Blaze	ek, Jr	·					26 December 2012
Analysis ⊠ F			p Analysis s – Other Particles		☐ Direct Micro ☐ Quantitative	scopic E Spore C	xam (Qualitative) ount Direct Exam	n
Sample #		Des	cription					Volume, Area or HA# (as Applicable)
UNO-027-AOC-01	1	Exto	rior – Between f	Buildir	igs 2 and 3			1501
UNO-027-AOC-01	2		ding 2 – 1 <sup>31</sup> Floor					1501
UNO-027-AOC-01	3	8ull	ding $2-1^{*}$ floor	- Sta	irwell			1501
UNO-027-AOC-01-	4		ding 2 – 1 <sup>st</sup> Floor			ce		150
UNO-027-AOC-01	5		ding 2 ~ 1° Floor					1501
UNO-927-AOC-01/	6		ding 2 – 2 <sup>rd</sup> Floo					1501
UNO-027-AOC-01	7		ding 2 – 2 <sup>nd</sup> Floo					150 (
UNO-027-AOC-01	8		ding 2 – 2 <sup>nd</sup> Floo					1501
UNO-027-AOC-01	ç		lding 2 – 2 <sup>nd</sup> Flooi			orner		150
UNO-027-AOC-02	0		ding 2 – 2 <sup>rd</sup> Floo					150 !
UNO-027-AOC-02	1		ding 2 - 3 <sup>rd</sup> Floor					150
UNO-027-AOC-02	2		ding 2 – 3 <sup>rd</sup> Floor					150
UNO-027-AOC-02	3		lding 2 – 4 <sup>th</sup> Floor					1501
UNO-027-AOC-02	4		lding 3 – 3 <sup>rd</sup> Floor					1501
UNO-027-AOC-02			Iding $3-3^{cd}$ Floor					1501
UNO-027-AOC-02			Iding $3 - 3^{rd}$ Floor					1501
UNO-027-AOC-02			lding 3 – 3 <sup>rd</sup> Floor					150
UNO-027-AOC-02			lding 3 – 3 <sup>rd</sup> Floor				пісе	150
UNO-027-AOC-02			iding 3 – 3 <sup>rd</sup> Floor					1501
UNO-027-AOC-03	iQ	Bui	lding 3 – 3 <sup>rd</sup> Floor	r – Ce	nter of South	ern Wal	<u> </u>	1501
Receiving Labo	oratory		Lab P&K					Phone Number
Address			11 NW 5 <sup>th</sup> Way St 11 West Knudsen				£ 33309	(877) 711-8400 (800) 651-4802
Released By:	. /	7	Date / Time		Received B	Sy:	1	Date / Time
		15	27DEC2012/090	1	FedEx	-		899473252202
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Desitive Stop		1				⊠Additio	nal Pages Attack	ed Page 1 of 2

# Leaaf

## Mold Chain of Custody



	- NAVY Buildings 2-4	Project#	UNO- <u>027</u>
Address: 2285	Lakeshore Drive, New Orleans, LA 70122		
Sample #	Description		Volume, Area or HA# (as Applicable)
UNQ-027-AOC-031	Building 3 – 2 <sup>rd</sup> Floor – SE Corner Office		150 l
JNO-027-AOC-032	Building 3 – 2 <sup>nd</sup> Floor – W of SE Corner Office		1501
JNO-027-AQC-033	Building 3 – 1st Floor – SE Corner Computer Of	fice	150
JNO-027-AOC-034	Building 3 – 1 <sup>st</sup> Floor – SW Corner		1501
UNO-027-AOC-035	Building 4 – 1 <sup>st</sup> Floor – SW Corner Office		1501
UNO-027-AOC-036	Building 4 – 1 <sup>st</sup> Floor – E of SW Corner Office		1501
UNO-027-AOC-037	Exterior - 8etween Building 3 and 4		1501
	[		
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☐Positive Stop on HA	- DAddit	ional Pages Attac	hed Page 2 of 2

## **Appendix C**

## **Sources of Information**

## **Sources of Information**

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- 4. Environmental Protection Agency. Tools for Schools IAQ. http://www.epa.gov/iag/schools/index.html. 2011.
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